

## **DISCLAIMER**

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## **APPLICATION OF**

**CPV WARREN, LLC**

**CASE NO. PUE-2002-00075**

**For a certificate of  
public convenience and  
necessity for electric  
generation facilities in  
Warren County, Virginia**

## **REPORT OF ALEXANDER F. SKIRPAN, JR., HEARING EXAMINER**

**November 25, 2002**

CPV Warren seeks approval to construct and operate a 520MW combined-cycle electric generating facility in Warren County, Virginia. The facility will operate as an independent power producer, supplying electricity on a wholesale basis to Virginia and surrounding regions. The facility will interconnect on-site with a 500 kV transmission line owned by Dominion Virginia Power and a 138 kV transmission line owned by Allegheny Power Systems. The facility will be powered by natural gas and will use low-sulfur distillate oil as a backup fuel for no more than 720 hours per year.

## **HISTORY OF THE CASE**

On February 4, 2002, CPV Warren, LLC (“CPV Warren” or “Company”) filed an Application with supporting testimony and exhibits requesting that the State Corporation Commission (“Commission”) grant a certificate of public convenience and necessity (“Certificate”), pursuant to § 56-580 D of the Virginia Code and the revised provisions of 20 VAC 5-302-10 and 20 of the Virginia Administrative Code, to construct, own, and operate the Warren County Electric Generating Facility (“Facility”) in Warren County, Virginia. CPV Warren proposes to construct, own, and operate the combined-cycle natural gas-fired Facility, which would consist of two combustion turbines, two supplemental-fired heat recovery steam generators, and a steam turbine. The Facility would have a nominal capacity rating of 520 megawatts (“MW”) and would be capable of operating year-round as a base load generator. In its Application, CPV Warren also sought confidential treatment of certain commercially-sensitive information related to the Facility.

On March 18, 2002, the Commission entered its Order for Notice and Hearing, in which it required CPV Warren to provide notice of its Application, established a procedural schedule, set the evidentiary hearing for July 24, 2002, and assigned the matter to a hearing examiner. Washington Gas Light Company filed its Notice of Participation herein on April 12, 2002.

In providing notice of this proceeding pursuant to the Order, CPV Warren inadvertently served notice on Columbia Gas of Virginia, instead of Columbia Gas Transmission Corporation (“Columbia Transmission”). CPV Warren notified Columbia Transmission of this proceeding on

June 26, 2002, which was after the deadline for filing notices of participation. On July 11, 2002, Columbia Transmission filed a Notice of Participation as a Respondent Out-Of-Time (“Notice”), stating that it would accept the record “as is,” without further modification, and that it was not seeking to delay the procedural schedule for the proceeding. On July 15, 2002, CPV Warren filed a Motion in Support of Notice of Participation as a Respondent Out-of-Time (“Motion”), asserting that no parties would be prejudiced by the granting of Columbia Transmission’s Notice. Columbia Transmission’s Notice and CPV Warren’s Motion were granted in a Hearing Examiner’s Ruling dated July 17, 2002.

The evidentiary hearing was convened as scheduled on July 24, 2002. James R. Barrett, Esquire, George D. Cannon, Jr., Esquire, and Cassandra Sturkie, Esquire, appeared on behalf of CPV Warren. William H. Chambliss, Esquire, and Sherry Bridewell, Esquire, appeared on behalf of the Staff. Neither Columbia Transmission nor Washington Gas Light Company made an appearance at the hearing. At the hearing, the Examiner entered a ruling that CPV Warren had complied with the Commission’s Order for Notice and Hearing, timely served notice, and that Columbia Transmission was a party to this proceeding and had not been prejudiced by the late notice. Filed with this Report is a transcript of the hearing.

In order to expedite this matter, counsel for CPV Warren and Staff submitted a joint summary of the record in this proceeding.

## **SUMMARY OF THE RECORD**

Examination of the record will begin with the testimony offered by public witnesses at the evidentiary hearing. The testimony and exhibits offered into evidence will then be analyzed, starting with the Company’s prefiled direct testimony, its prefiled supplemental testimony, the Staff’s prefiled testimony, and CPV Warren’s prefiled rebuttal testimony.

### **A. Public Testimony Offered At The Public Hearing**

Two public witnesses spoke in favor of CPV Warren’s proposed Facility; one public witness opposed construction of the proposed Facility. Richard Traezyk, a resident of Front Royal, testified that he was the former chairman of the Warren County Planning Commission (“Planning Commission”) at the time that CPV Warren presented its petition for local approval.<sup>1</sup> He stated that the Planning Commission unanimously voted to approve CPV Warren’s proposed Facility.<sup>2</sup> Mr. Traezyk explained that, to learn about CPV Warren’s Facility, the Planning Commission reviewed CPV Warren’s data, conferred with professionals about the technical aspects of CPV Warren’s Facility, and visited a similar facility in Hanover, Virginia, to observe its operations.<sup>3</sup> Based on this research, Mr. Traezyk concluded that CPV Warren’s power generation Facility is superior to coal-fired systems and nuclear power plants.<sup>4</sup> Also, Mr. Traezyk testified that CPV Warren’s Facility will benefit Warren County by contributing millions of

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<sup>1</sup> Traezyk, Tr. at 28.

<sup>2</sup> *Id.* at 30.

<sup>3</sup> *Id.* at 28-29.

<sup>4</sup> *Id.* at 29.

dollars to the County's tax base; diversifying the County's businesses; and bringing high dollar, high skill jobs to the community.<sup>5</sup> Finally, Mr. Traezyk noted that CPV Warren's Facility is subject to restrictions and obligations imposed by county, state, and federal laws.<sup>6</sup>

Doug Stanley, a resident of Front Royal and the Warren County administrator and planning director, addressed the proposed site for the Facility.<sup>7</sup> He stated that the site, located in the middle of Warren County's industrial corridor, has been zoned for industrial use since 1977 and is "ideally suited" for CPV Warren's Facility because of its proximity to interstate gas lines and electric transmission lines.<sup>8</sup>

In addition, Mr. Stanley discussed the process by which Warren County officials evaluated and approved the conditional use permit ("CUP") for CPV Warren's proposed Facility.<sup>9</sup> According to Mr. Stanley, County officials toured a similar facility and conferred with officials from other jurisdictions where similar facilities are located.<sup>10</sup> The County requested comments regarding the Facility's potential impacts from the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Transportation ("VDOT"), the local soil and water conservation district, and the local and state health departments.<sup>11</sup> The County also conducted an "in-depth" third-party review of the technical aspects of CPV Warren's proposed Facility, including air quality, site impact, noise abatement, water use, and local tax implications.<sup>12</sup> Additionally, the Planning Commission, the Warren County Board of Supervisors, and CPV Warren independently held community meetings to seek public input on the proposed Facility.<sup>13</sup> Mr. Stanley stated that both the Planning Commission and the Board of Supervisors unanimously approved the CUP, subject to 54 conditions.<sup>14</sup>

On cross-examination, Mr. Stanley maintained that CPV Warren's commitment to utilizing dry-cooling technology to reduce water consumption distinguished CPV Warren's application from other potential power facility projects.<sup>15</sup> Mr. Stanley confirmed that when the County officials approved the CUP they did not factor in the presence of the Madison Cave Isopod<sup>16</sup> on land near CPV Warren's proposed site.<sup>17</sup>

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<sup>5</sup> *Id.* at 30.

<sup>6</sup> *Id.*

<sup>7</sup> Stanley, Tr. at 32-35.

<sup>8</sup> *Id.* at 32-33.

<sup>9</sup> *Id.* at 33-34.

<sup>10</sup> *Id.*

<sup>11</sup> *Id.* at 33.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* at 34.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at 37-38.

<sup>16</sup> As discussed *infra*, the Madison Cave Isopod (*Antrolana lira*) is listed as threatened under both the United States and the Virginia Endangered Species Acts. Specimens of the Madison Cave Isopod have been identified on land near the proposed site of CPV Warren's Facility.

<sup>17</sup> Stanley, Tr. at 39-40.

Dan Holmes of the Piedmont Environmental Council spoke in opposition to CPV Warren's proposed Facility.<sup>18</sup> Mr. Holmes' testimony focused principally on the impact of the Facility on air quality.<sup>19</sup> Regarding impacts to air quality, Mr. Holmes raised concern that Warren County is included within the U.S. Environmental Protection Agency's ("EPA") presumptive boundaries for non-attainment with the eight-hour ozone standard, as illustrated by a map that he produced.<sup>20</sup> He questioned whether CPV Warren's commitment to obtain offsets of oxides of nitrogen ("NO<sub>x</sub>") emissions was possible and enforceable.<sup>21</sup> Further, Mr. Holmes asserted that CPV Warren should use lowest achievable emission rate ("LAER") technology rather than best available control technology ("BACT").<sup>22</sup> Mr. Holmes questioned whether DEQ had addressed Prevention of Significant Deterioration ("PSD") increments for CPV Warren's Facility and for the cumulative impacts of all proposed facilities.<sup>23</sup> He expressed concern that Virginia's PSD program had not been subject to a periodic comprehensive review, as prescribed by federal law.<sup>24</sup> He also questioned the future costs to Warren County from CPV Warren's proposed Facility.<sup>25</sup>

Regarding CPV Warren's commitments to Warren County, Mr. Holmes expressed concerns over whether CPV Warren intends to operate the proposed Facility and whether the commitments made by CPV Warren to Warren County would be enforceable if CPV Warren sold the Facility.<sup>26</sup> Next, Mr. Holmes testified that the Commission should address several environmental issues that were not "considered" by DEQ within the meaning of Senate Bill 554.<sup>27</sup> He stated that deregulation has not necessarily brought lower rates to communities.<sup>28</sup> Finally, Mr. Holmes indicated that he remembered that CPV Warren had contributed \$5,000 to the Isaac Walton League to educate the public about its proposed Facility.<sup>29</sup>

On cross-examination by Staff, Mr. Holmes testified that he had obtained the map on nonattainment areas<sup>30</sup> from the National Park Service and added icons to depict monitoring sites and power plants.<sup>31</sup> Mr. Holmes clarified that two of the proposed plants should be removed from the map because the projects have been withdrawn.<sup>32</sup> Furthermore, he explained that there is a dispute between DEQ and EPA over the classification of Warren County, with DEQ holding that the County should not be listed or considered as an area in non-attainment under the eight-

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<sup>18</sup> Holmes, Tr. 40-88.

<sup>19</sup> *Id.* at 41.

<sup>20</sup> *Id.* at 41-43; Exhibit No. 1.

<sup>21</sup> Holmes, Tr. at 43.

<sup>22</sup> *Id.* at 43-44.

<sup>23</sup> *Id.* at 44-45.

<sup>24</sup> *Id.* at 45-46.

<sup>25</sup> *Id.* at 46-47.

<sup>26</sup> *Id.* at 47.

<sup>27</sup> *Id.* at 47-48.

<sup>28</sup> *Id.* at 48.

<sup>29</sup> *Id.* at 49.

<sup>30</sup> Exhibit No. 1.

<sup>31</sup> Holmes, Tr. at 51-52.

<sup>32</sup> *Id.* at 51-52.

hour ozone standard.<sup>33</sup> Mr. Holmes confirmed that the site for the proposed Facility is not currently in a non-attainment area.<sup>34</sup> If the County eventually is included in a non-attainment area, Mr. Holmes asserted the County could lose federal highway transportation dollars, and that new industries would be required to use LAER instead of BACT technology.<sup>35</sup> While he was unable differentiate between BACT and LAER as applied to CPV Warren's proposed Facility, Mr. Holmes claimed that LAER "is much more restrictive."<sup>36</sup>

Addressing Figure 3-3 of CPV Warren's Environmental Report ("ER"), Mr. Holmes questioned whether the NO<sub>x</sub> emissions rate for Dominion Virginia Power's ("Dominion") coal-fired Possum Point plant took into account emissions-reduction technologies that he testified were mandated as a result of a lawsuit brought by the State of New York.<sup>37</sup> He questioned whether the substantial investment in this plant would result in the CPV Warren plant displacing certain existing generating plants.<sup>38</sup> Mr. Holmes stated that he applauds CPV Warren for using dry-cooling technology, but suggested the plant would be cleaner at a LAER rather than BACT standard.<sup>39</sup>

On cross-examination by CPV Warren, Mr. Holmes testified that he believes the PSD permitting process accounts for cumulative air quality impacts in the PSD increment for the National Ambient Air Quality ("NAAQS") standards.<sup>40</sup> He commented that he believed the DEQ would not consider the cumulative impacts of this and other projects and did not know whether the Park Service had the ability to consider such impacts.<sup>41</sup> Mr. Holmes contended that the cumulative impact of the power plants proposed for Virginia goes beyond just air issues and should include water and tourism among the other factors.<sup>42</sup> Mr. Holmes faulted DEQ's cumulative impact analysis for failing to consider factors beyond air and for failing to consider cumulative air impacts for two recently proposed coal facilities, including one proposed for Sussex County.<sup>43</sup>

## **B. CPV Warren's Direct and Supplemental Testimony**

### **1. CPV Warren's Direct Testimony**

CPV Warren prefiled the direct testimony of Thomas E. Eiden, CPV Warren's vice president for project development,<sup>44</sup> and the direct testimony of Glenn Harkness, senior vice

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<sup>33</sup> *Id.* at 53-55.

<sup>34</sup> *Id.* at 55.

<sup>35</sup> *Id.* at 57.

<sup>36</sup> *Id.* at 58.

<sup>37</sup> *Id.* at 60-65.

<sup>38</sup> *Id.* at 62-65.

<sup>39</sup> *Id.* at 66-67.

<sup>40</sup> *Id.* at 70-72.

<sup>41</sup> *Id.* at 73.

<sup>42</sup> *Id.* at 75.

<sup>43</sup> *Id.* at 77-82.

<sup>44</sup> Exhibit No. 3.

president for TRC Environmental Corporation (“TRC”) and principal-in-charge on the environmental and technical features of the Facility.<sup>45</sup> At the hearing, Mr. Eiden adopted and presented the direct testimony of Mr. Harkness.<sup>46</sup> These testimonies are summarized below.

a. Mr. Eiden’s Direct Testimony

*Technical Characteristics Of The Facility.* Mr. Eiden testified that the Facility will be a 520 MW combined-cycle electric generating facility that uses natural gas for fuel to produce electricity.<sup>47</sup> He stated the Facility will use state-of-the-art combined-cycle power generation technology and air pollution control systems and will include both gas and steam cycles to maximize efficiency and energy conservation.<sup>48</sup> He verified that in the gas cycle, the two GE 7FA combustion turbines will fire natural gas as the primary fuel to produce electricity.<sup>49</sup> Further, Mr. Eiden stated that the steam cycle will consist of two heat recovery steam generators (“HRSGs”) providing steam to a single steam turbine generator.<sup>50</sup> Mr. Eiden explained that the steam cycle provides exceptional efficiency by employing the HRSGs to recover otherwise lost heat from the gas turbine exhaust and using it to create steam and drive the steam turbine generator to produce additional electricity.<sup>51</sup> He stated that the steam that exhausts from the steam turbine generator is cooled and condensed for re-use in the steam cycle.<sup>52</sup> Mr. Eiden asserted that the combined-cycle technology achieves an operational efficiency on a unit of energy output per unit of energy input basis greater than operational efficiency for older plants.<sup>53</sup>

Mr. Eiden testified that the Facility will use low-sulfur distillate oil as a backup fuel for no more than 30 days per year and that the Facility will burn such backup fuel only between November 1st and March 31st of any given year.<sup>54</sup> He maintained that the only time that the Facility will burn oil would be in the event that the natural gas supply is interrupted to serve downstream needs of residential users, in the time of a severe cold snap in the winter months, or if the cost of natural gas becomes, for a short term, exorbitantly high.<sup>55</sup>

*Facility Site.* Mr. Eiden testified that CPV Warren has acquired a binding option from Jasbo Inc. to purchase a 34.6-acre parcel of land in the Warren and Kelly Industrial Parks (the “Industrial Park”), approximately 2.3 miles north of Interstate Route 66, and an option from the Economic Development Authority of Warren County and Front Royal on a four-acre parcel of land in the Industrial Park, adjacent to the 34.6-acre parcel.<sup>56</sup> Mr. Eiden confirmed that the 38.6-

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<sup>45</sup> Exhibit No. 5.

<sup>46</sup> Eiden, Tr. at 91-92.

<sup>47</sup> Exhibit No. 3, at 2.

<sup>48</sup> *Id.* at 2-3.

<sup>49</sup> *Id.* at 3.

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> Eiden, Tr. at 107.

<sup>55</sup> *Id.*

<sup>56</sup> Exhibit No. 3, at 3.

acre site is zoned for industrial use in the Industrial [I] District.<sup>57</sup> At the hearing, Mr. Eiden indicated that the option on the 38.6-acre parcel expires in June 2004, and the option on the four-acre parcel is currently set to expire on December 31, 2002, and that this option is likely to be extended.<sup>58</sup>

Mr. Eiden testified that the proposed site has numerous benefits.<sup>59</sup> He explained that the site is located at the intersection of the utilities necessary for the operation of the Facility and the transmission of the electricity the Facility will generate.<sup>60</sup> In addition, Mr. Eiden submitted that a Norfolk Southern rail line borders the site to the east, which will permit CPV Warren to transport heavy machinery to the site during the construction of the Facility via the rail line, thereby minimizing burdens on local roads.<sup>61</sup> Mr. Eiden also pointed out that the proximity of the Facility to the rail line will provide CPV Warren with the additional flexibility of obtaining some of its backup fuel oil by rail instead of by trucks.<sup>62</sup> During the hearing, Mr. Eiden confirmed that CPV Warren intends to use rail for fuel oil deliveries whenever such delivery can be scheduled.<sup>63</sup>

Utility Interconnections. In his prefiled direct testimony, Mr. Eiden explained that the Facility will interconnect on-site with a 500 kV line owned by Dominion and a 138 kV line owned by Allegheny Power Systems (“Allegheny”), each of which serves retail customers in the Commonwealth.<sup>64</sup> Mr. Eiden explained that the Facility will be interconnected with Dominion such that 100% of the Facility’s output can be transmitted across Dominion’s transmission system, and with Allegheny such that up to 50% of the Facility’s output can be transmitted across Allegheny’s transmission system.<sup>65</sup> Mr. Eiden verified that the Facility will not have a material adverse effect upon the reliability of electric service provided by either Dominion or Allegheny, or any other public utility in the Commonwealth.<sup>66</sup> He explained that Dominion performed a System Impact Study, which concluded that, with the appropriate upgrades, the Facility will not adversely affect the reliability of Dominion’s system.<sup>67</sup> In addition, Mr. Eiden testified that Allegheny conducted a System Impact Study, which also concluded that, with the appropriate upgrades, the Facility would not adversely impact the reliability of the Allegheny system.<sup>68</sup> Finally, Mr. Eiden submitted that because there is a growing demand for electric power in Virginia, the Facility should actually foster a greater reliability of electric service in the Commonwealth.<sup>69</sup> He asserted that, unless electricity supply in Virginia keeps pace with the

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<sup>57</sup> *Id.*

<sup>58</sup> Eiden, Tr. at 105.

<sup>59</sup> Exhibit No. 3, at 3.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* at 4.

<sup>62</sup> *Id.*

<sup>63</sup> Eiden, Tr. at 109.

<sup>64</sup> Exhibit No. 3, at 4.

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.* at 4, Attached Exhibit 2.

<sup>68</sup> *Id.* at 4-5, Attached Exhibit 2.

<sup>69</sup> *Id.* at 5.

growing consumer demand, energy prices could rise and system reliability could be jeopardized.<sup>70</sup>

During the hearing, Mr. Eiden noted that on July 22, 2002, he sent a letter to Commission Staff providing a status report on various issues related to the Facility.<sup>71</sup> In the July 22 letter, Mr. Eiden stated that, since filing the Application, CPV Warren has continued the interconnection process with both Dominion and Allegheny.<sup>72</sup> On July 17, 2002, CPV Warren received its final Facilities Study from Dominion, which concluded that the Facility will require no network upgrades on Dominion's system.<sup>73</sup> The letter stated that CPV Warren anticipates that it will execute an Interconnection Agreement with Virginia Power by the end of October 2002.<sup>74</sup> Further, the letter explained that the process with Allegheny is moving more slowly, given that Allegheny must also coordinate its studies with PJM; however that CPV Warren anticipates that it will receive a final Facilities Study from Allegheny by the end of the summer of 2002.<sup>75</sup>

Mr. Eiden testified that the Facility's two turbines will be powered by natural gas that will be delivered by an existing interstate natural gas pipeline owned by Columbia Transmission.<sup>76</sup> He confirmed that CPV Warren anticipates Columbia Transmission will construct a lateral of less than three miles in length to transport the gas from a new point of delivery on the Columbia Transmission mainline to the Facility.<sup>77</sup> He explained that the lateral will be a minimum of 16 inches in diameter and will be capable of transporting the full daily natural gas requirements of the Facility.<sup>78</sup> Mr. Eiden verified that CPV Warren intends to construct piping from the Facility to interconnect with the Columbia Transmission lateral, and that this piping would not be used to provide or enhance fuel supplies to any other entity.<sup>79</sup> Finally in his July 22 letter to Commission Staff, Mr. Eiden stated that CPV Warren anticipates that Columbia Transmission will provide it with a form of agreement for gas transportation services for a term of approximately ten years.<sup>80</sup>

In addition, Mr. Eiden testified that CPV Warren does not intend to enter into a long-term arrangement for the supply of gas.<sup>81</sup> Rather, as Mr. Eiden explained, CPV Warren intends to obtain its gas supply on a daily basis at market prices from natural gas marketers, producers, and other suppliers serving the Commonwealth.<sup>82</sup> Mr. Eiden asserted that the numerous interstate pipelines, supply sources, storage fields and market hubs in the vicinity of the Facility will

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<sup>70</sup> *Id.*; *See also*, Eiden, Tr. at 100-104.

<sup>71</sup> Eiden, Tr. at 94-95; Exhibit No. 6.

<sup>72</sup> Exhibit No. 6, at 1-2.

<sup>73</sup> *Id.* at 1.

<sup>74</sup> *Id.* at 1-2.

<sup>75</sup> *Id.* at 2.

<sup>76</sup> Exhibit No. 3, at 5.

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> *Id.*

<sup>80</sup> Exhibit No. 6, at 2.

<sup>81</sup> Exhibit No. 3, at 5.

<sup>82</sup> *Id.* at 5-6.

provide CPV Warren with substantial gas liquidity.<sup>83</sup> As a result, Mr. Eiden concluded CPV Warren will benefit from price competition between service providers, price stability from the large daily volume of gas traded in the region, and lower total fuel costs by minimizing or totally avoiding demand/fixed charges associated with firm natural gas service.<sup>84</sup>

At the hearing, Mr. Eiden testified that Front Royal will likely supply the Facility's water needs.<sup>85</sup> Mr. Eiden stated that the only other entity that could potentially provide water and sewer service to the Industrial Park would be Warren County itself, and that Warren County and Front Royal are currently discussing future water management issues with respect to the Industrial Park.<sup>86</sup> Mr. Eiden explained that, depending upon the outcome of those discussions, CPV Warren will contract to secure the Facility's water and sewer service from the entity serving the Industrial Park.<sup>87</sup>

Local Land Use And Approval Process. Mr. Eiden explained that in order to construct and operate an electric generating facility on the proposed site with a building height variance, CPV Warren was required to obtain a CUP.<sup>88</sup> He testified that on November 14, 2001, the Warren County Planning Commission voted to recommend approval of CPV Warren's CUP application and that on December 21, 2001, the Warren County Board of Supervisors voted unanimously to grant CPV Warren the CUP.<sup>89</sup> Further, Mr. Eiden pointed out that the Board of Supervisors approved the CUP subject to 54 conditions, which cover topics including, but not limited to, environment and land use, energy regulation, and safety.<sup>90</sup> He stated that the Facility, as approved by the Board of Supervisors, will include design features intended to mitigate impacts to the environment and surrounding community.<sup>91</sup> For example, Mr. Eiden indicated that CPV Warren will utilize noise attenuation measures, restrictions on lighting, and vegetated buffers to avoid disturbances to adjoining properties; prepare a construction traffic management plan for review and approval by the Virginia Department of Transportation; install BACT to minimize impacts on air quality; and utilize dry-cooling technology to minimize water usage.<sup>92</sup>

In addition, Mr. Eiden testified that CPV Warren must secure several additional environmental permits or certifications, as required by federal, state, and local law.<sup>93</sup> Mr. Eiden concluded in his prefiled direct testimony that, because the Facility will produce only minimal impacts to air, water, and land, CPV Warren did not anticipate any difficulty in securing the necessary permits and certifications.<sup>94</sup>

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<sup>83</sup> *Id.* at 6.

<sup>84</sup> *Id.*

<sup>85</sup> Eiden, Tr. at 106.

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> Exhibit No. 3, at 6.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> *Id.* at 6-7.

<sup>93</sup> *Id.* at 7.

<sup>94</sup> *Id.*

During the hearing, Mr. Eiden provided a status update of CPV Warren's permit and approval process.<sup>95</sup> Mr. Eiden testified that in January 2002, CPV Warren submitted a PSD air permit application to DEQ.<sup>96</sup> Mr. Eiden confirmed that on April 18, 2002, CPV Warren and DEQ conducted an informational briefing on the air permit application in Warren County.<sup>97</sup> He stated that CPV Warren is continuing to interact with the DEQ and the National Park Service, which is a participant in the permitting process with regard to CPV Warren's PSD permit application.<sup>98</sup> He affirmed that CPV Warren will be submitting additional modeling data to the DEQ as soon as the Park Service grants a final acceptance for the modeling protocol.<sup>99</sup> In addition, Mr. Eiden indicated that CPV Warren had completed the Site Development Plan and the Erosion and Sediment Control Plan, which will be submitted to Warren County.<sup>100</sup>

Economic Benefits Of The Facility. With respect to the economic benefits of the proposed Facility, Mr. Eiden testified that, under an agreement with Warren County, the Facility will generate no less than \$1.9 million in local property tax and other revenue for the County.<sup>101</sup> Mr. Eiden explained that at peak construction, the Facility will provide approximately 300 temporary construction jobs with an average annual, pre-tax salary of \$50,000, and that, once construction is complete, the Facility will create approximately 30 full-time jobs with an average annual salary exceeding \$55,000.<sup>102</sup> Moreover, Mr. Eiden maintained that CPV Warren intends to purchase as many goods and services from local sources as possible.<sup>103</sup> Mr. Eiden concluded that, while the Facility will contribute significantly to the local economy, it will not cause substantial population growth and therefore will have very little impact on County services and infrastructure.<sup>104</sup>

Corporate Structure. Mr. Eiden testified that CPV Warren, a Maryland-based limited liability company organized under the laws of Delaware, was established in 2001 for the purpose of developing the proposed Facility in Warren County that is the subject of this proceeding.<sup>105</sup> He testified that CPV Warren is a single purpose entity that will hold all of the assets and liabilities associated with the Facility, and it has no affiliation with any incumbent utility in Virginia.<sup>106</sup>

Mr. Eiden further testified that CPV Warren is a direct, wholly owned subsidiary of CPV Warren Inc., which in turn is a direct, wholly owned subsidiary of Competitive Power Ventures

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<sup>95</sup> Eiden, Tr. at 93-94.

<sup>96</sup> *Id.* at 93, Exhibit No. 6.

<sup>97</sup> Eiden, Tr. at 93-94.

<sup>98</sup> *Id.* at 94.

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> Exhibit No. 3, at 7.

<sup>102</sup> *Id.*

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> *Id.* at 8.

<sup>106</sup> *Id.*

Holdings, LLC (“CPV Warren Holdings”).<sup>107</sup> He stated that CPV Warren is an affiliate of Competitive Power Ventures, Inc. (“CPV Inc.”), which is also a wholly owned subsidiary of CPV Holdings.<sup>108</sup> Mr. Eiden explained that CPV Inc. is in the business of developing, through affiliated development companies such as CPV Warren, high-efficiency, environmentally desirable power projects throughout the United States and Canada.<sup>109</sup> He affirmed that CPV Inc., which focuses on facilities in the range of 250 to 800 MWs, currently has a number of projects under development in Florida, Virginia, Connecticut, Iowa, and Georgia.<sup>110</sup>

Financial Information On CPV Warren. Mr. Eiden testified that CPV Warren was established in 2001 and therefore does not have its own financial statements to provide for 1999, 2000 or 2001.<sup>111</sup> Therefore, Mr. Eiden included the 2000 financial statement for CPV Holdings.<sup>112</sup> Because CPV Holdings was created in 2000, when the CPV corporate organization was modified to create a holding company structure, Mr. Eiden also provided the 1999 and 2000 financial statements of Competitive Power Ventures, L.P. (“CPV LP”) which was eliminated as part of the corporate reorganization in which CPV Holdings was created.<sup>113</sup> CPV LP was the predecessor entity to CPV Inc.<sup>114</sup>

CPV Warren’s Experience In Developing Generating Facilities. Mr. Eiden testified that members of CPV Inc.’s management team have had many years of experience in developing power plants in the United States.<sup>115</sup> Mr. Eiden showed that in Virginia, CPV Cunningham Creek LLC (“CPV Cunningham Creek”), a sister company of CPV Warren, filed with the Commission in Case No. PUE-2001-00477 an application for a Certificate to construct and operate a 520 MW combined-cycle electric generating facility in Fluvanna County, Virginia.<sup>116</sup> On October 7, 2002, the Commission entered a final order granting CPV Cunningham Creek authority and a certificate of public convenience and necessity to construct and operate the electric generating facility in Fluvanna County.<sup>117</sup> In addition, Mr. Eiden pointed out that another sister company of CPV Warren, CPV Smyth LLC, is currently developing a 900 MW combined-cycle facility in Smyth County, Virginia, and intends to file an application with the Commission in connection with that facility.<sup>118</sup> Mr. Eiden maintained that the proposed facilities in Warren, Smyth, and Fluvanna Counties are similar in that each facility will provide a portion

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<sup>107</sup> *Id.*, Attached Exhibit 3.

<sup>108</sup> *Id.*

<sup>109</sup> *Id.* at 8.

<sup>110</sup> *Id.*

<sup>111</sup> *Id.* at 12.

<sup>112</sup> *Id.*, Attached Exhibit 5.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 12.

<sup>115</sup> *Id.* at 9.

<sup>116</sup> *Id.* at 8.

<sup>117</sup> *See Application of CPV Cunningham Creek LLC, For approval of a certificate of public convenience and necessity pursuant to Va. Code § 56-265.2, for an exemption from Chapter 10 of Title 56, and for interim authority to make financial expenditures, Case No. PUE-2001-00477, Final Order (October 7, 2002).*

<sup>118</sup> Exhibit No. 3, at 8-9.

of Virginia's unmet demand for electricity and will help to displace more polluting and less efficient sources of electricity.<sup>119</sup> In addition, Mr. Eiden verified that each of these three Virginia facilities will be powered by natural gas, an inherently clean fuel, and will utilize BACT.<sup>120</sup> Further, Mr. Eiden asserted that each facility will operate as an independent power producer, supplying electricity on a wholesale basis to the electricity markets in Virginia and surrounding regions.<sup>121</sup>

Virginia As The Location For The Facility. Mr. Eiden explained that CPV Warren decided to locate its generating facility in Virginia because the market in the southeastern U.S., represented by the Southeastern Electric Reliability Council, of which Virginia forms a part, has one of the largest needs for new generation capacity in the country.<sup>122</sup> He contended that unless electricity supply in Virginia can keep pace with the growing consumer demand, energy prices will rise and system reliability could be jeopardized.<sup>123</sup> Mr. Eiden testified that the construction of electric generation facilities such as the Facility proposed by CPV Warren in this proceeding will help the Commonwealth to avoid such a crisis, as well as help to ensure continued system reliability, greater competition and lower energy prices for Virginia consumers.<sup>124</sup> Further, Mr. Eiden maintained that the Virginia legislature's recently enacted Virginia Electric Restructuring Act requires suppliers and aggregators of electricity to demonstrate that they have access to generation and reserves in order to obtain the necessary license to conduct business, thereby further encouraging the development of new generation in Virginia.<sup>125</sup>

Ownership And Operation Of The Facility. At the hearing, Mr. Eiden testified that CPV Warren will be the entity that constructs and operates the Facility.<sup>126</sup> On June 18, 2002, counsel for the Company sent a letter to the Staff, which addressed the issue of CPV Warren's continued ownership and operation of the Facility.<sup>127</sup> In the letter, counsel for CPV Warren stated that approximately 50-60% of the Facility's capitalization will come from debt that is secured by the Facility.<sup>128</sup> CPV Inc. has various options for obtaining additional financing for the Facility.<sup>129</sup> Under one option, Warburg Pincus, the majority shareholder in CPV Holdings that has currently committed \$51 million to CPV Inc., could increase its equity participation in CPV Warren to an amount that would satisfy the remaining financing for the Facility.<sup>130</sup> Under another option, CPV Inc. could obtain the remaining 40-50% equity by taking on as an equity investor a company that is experienced in the business of owning and running power plants.<sup>131</sup> As Mr.

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<sup>119</sup> *Id.* at 9.

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

<sup>122</sup> *Id.*

<sup>123</sup> *Id.* at 10.

<sup>124</sup> *Id.*

<sup>125</sup> *Id.*

<sup>126</sup> Eiden, Tr. at 110-11.

<sup>127</sup> Exhibit No. 4, Attachment A.

<sup>128</sup> *Id.* at 1.

<sup>129</sup> *Id.*

<sup>130</sup> *Id.*

<sup>131</sup> *Id.* at 2.

Eiden testified, and as his June 18 letter explained, prospective investors under this scenario would include the large, publicly traded power generation companies.<sup>132</sup> The June 18 letter clarified that, in order to implement such an investment, CPV Holdings would sell an interest in the project company's holding company (*i.e.*, CPV Warren Inc.) to another large, reputable entity in the business of owning and running power plants.<sup>133</sup> Mr. Eiden testified that, under any of these scenarios, CPV Warren will continue to be the owner and operator of the Facility, and will continue to hold and be subject to any and all permits and approvals issued with respect to the project, including any certificate issued by the Commission.<sup>134</sup>

b. Mr. Harkness's Direct Testimony, adopted by Mr. Eiden

Mr. Harkness's prefiled testimony, adopted by Mr. Eiden, addressed CPV Warren's efforts to mitigate environmental impacts from the Facility, as well as the Facility's environmental permitting and certifications.<sup>135</sup> In addition, this testimony introduced CPV Warren's Environmental Report ("ER"), which includes a detailed discussion of the Facility's environmental considerations; the permits and certifications required by federal, state, and local law; and CPV Warren's reports and investigations on water use, noise, traffic, visibility, historic resources, and natural heritage resources.<sup>136</sup> The key environmental considerations are described below.

*Suitability Of The Proposed Site.* Mr. Eiden testified that the proposed site for the Facility encompasses 38.6 acres of land on two contiguous parcels in the Industrial Park, approximately 2.3 miles north of Interstate Route 66.<sup>137</sup> Mr. Eiden affirmed that CPV Warren currently has an option to purchase both parcels.<sup>138</sup> CPV Warren intends to construct the Facility and ancillary buildings on approximately 22.7 acres in the middle of the site.<sup>139</sup>

Mr. Eiden testified that the site's characteristics allow CPV Warren to develop a desirable, environmentally-sensitive Facility without adversely changing the character or pattern of land use in the nearby community.<sup>140</sup> The site is zoned in the Industrial [I] District for industrial use, and the Facility's planned industrial operations are consistent with the Warren County Comprehensive Plan and with all existing or planned development in the surrounding area.<sup>141</sup> Minimal environmental disturbance will be necessary because the site was disturbed previously to facilitate development.<sup>142</sup> The site's proximity to both natural gas pipelines and electric transmission lines eliminates the environmental impacts that would otherwise be associated with

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<sup>132</sup> *Id.*; Eiden, Tr. at 112-13.

<sup>133</sup> Exhibit No. 4, Attachment A at 2.

<sup>134</sup> Eiden, Tr. at 111-12.

<sup>135</sup> Exhibit No. 5, at 1.

<sup>136</sup> *Id.*, Attached Exhibit 2.

<sup>137</sup> *Id.* at 2.

<sup>138</sup> *Id.*

<sup>139</sup> *Id.*

<sup>140</sup> *Id.*

<sup>141</sup> *Id.*

<sup>142</sup> *Id.*

lengthy off-site utility connections.<sup>143</sup> Additionally, the Norfolk Southern rail line borders the proposed site on the east, making it possible for CPV Warren to accept deliveries of distillate fuel oil, large facility components, and other construction materials by rail, to the extent practicable.<sup>144</sup>

Permits, Certifications, And Local Approval. Mr. Eiden testified regarding CPV Warren's CUP to construct the Facility and also addressed CPV Warren's progress in obtaining two other local pre-construction approvals: the Site Development Plan and the Erosion and Sediment Control Plan.<sup>145</sup> Mr. Eiden stated that CPV Warren has completed both plans and has received tentative approval for the Erosion and Sediment Control Plan by the Warren County Building Inspector.<sup>146</sup> CPV Warren will submit the Site Development Plan at the appropriate time and the Erosion and Sediment Control Plan approximately six months prior to commencement of construction.<sup>147</sup>

Mr. Eiden testified that CPV Warren is required to obtain several additional environmental permits or certifications, as required by federal, state, or local law.<sup>148</sup> The Application includes a listing of those permits and certifications, as well as the status of approval for each one.<sup>149</sup> Mr. Eiden advised that he believes CPV Warren will have no difficulty securing the requisite approvals.<sup>150</sup> In a letter to Sherry Bridewell dated July 22, 2002, CPV Warren provided the Staff with a chart updating the status of approval for each permit and certification.<sup>151</sup>

Visual Aesthetics. Mr. Eiden testified that CPV Warren designed the Facility with features that will minimize its visual impacts to adjacent and nearby properties.<sup>152</sup> These features include: (1) a vegetative buffer along the south and east property boundaries; (2) a six-foot tall opaque hedge, fence, wall, or berm along the south and east property boundaries to enhance the effectiveness of the vegetative buffer; (3) landscaping of the site, including landscaped areas along Kelley Drive and the Facility's parking lots; (4) the use of downward-oriented lighting; (5) relatively low emission stacks; and (6) a design layout within the Industrial Park that minimizes the Facility's visibility.<sup>153</sup> In addition, any structures above the tree height must be painted a neutral earth tone color and approved in advance by the Warren County Zoning Administrator.<sup>154</sup> As a condition of the CUP, CPV Warren will maintain all landscaping to the reasonable satisfaction of the Warren County Planning Director.<sup>155</sup>

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<sup>143</sup> *Id.* at 2-3

<sup>144</sup> *Id.* at 3.

<sup>145</sup> *Id.* at 4.

<sup>146</sup> *Id.*

<sup>147</sup> *Id.* at 4-5.

<sup>148</sup> *Id.* at 13.

<sup>149</sup> Application at 33-36.

<sup>150</sup> Exhibit No. 5, at 13.

<sup>151</sup> Exhibit No. 6.

<sup>152</sup> Exhibit No. 5, at 5.

<sup>153</sup> *Id.*

<sup>154</sup> *Id.*

<sup>155</sup> *Id.* at 6.

Air Quality And Permitting. Mr. Eiden testified that the Facility's two turbines will be fired primarily by clean natural gas.<sup>156</sup> To provide fuel diversity in the event of interruptions and to ensure flexibility in the event of unreliable market conditions, CPV Warren will seek permission to operate using low-sulfur distillate oil firing for 720 hours (the equivalent of 30 days) per year.<sup>157</sup>

To minimize air emissions, CPV Warren will meet BACT requirements, which include installation of a Selective Catalytic Reduction ("SCR") system.<sup>158</sup> CPV Warren voluntarily will install a carbon monoxide ("CO") catalyst to greatly reduce CO emissions.<sup>159</sup> Mr. Eiden explained that CPV Warren's technology will reduce NO<sub>x</sub> emissions from the Facility to 3.0 parts per million ("ppm") or less.<sup>160</sup> In addition, Mr. Eiden affirmed that CPV Warren voluntarily proffered to obtain NO<sub>x</sub> offsets that are as close in proximity to the proposed Facility as possible and in an amount representing greater total NO<sub>x</sub> emissions than the Facility will generate.<sup>161</sup>

Mr. Eiden testified that CPV Warren submitted to DEQ an application for a PSD air permit on January 15, 2002.<sup>162</sup> CPV Warren will be required to conduct modeling analyses to demonstrate the Facility's compliance with state and federal ambient air quality standards.<sup>163</sup> In addition, CPV Warren will be required to obtain an acid rain (Title IV) permit and an air operating (Title V) permit prior to the Facility's startup.<sup>164</sup>

Water Usage. Mr. Eiden testified that CPV Warren will install two air-cooled condensers to cool the waste heat generated by the Facility's steam turbines.<sup>165</sup> According to Mr. Eiden, air-cooling technology minimizes demand on local water resources by requiring far less water than standard water-cooling technology, and it also eliminates the visible plumes produced by water-cooled systems.<sup>166</sup>

Mr. Eiden stated that CPV Warren's Facility will require a maximum of 288,000 gallons of water per day during its peak usage, as compared to the five to six million gallons of water per day required by a water-cooled facility of similar capacity.<sup>167</sup> Mr. Eiden explained that maximum water demand will occur if: (1) the Facility must run on low-sulfur distillate fuel oil during the

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<sup>156</sup> *Id.* at 8.

<sup>157</sup> *Id.* at 3.

<sup>158</sup> *Id.* at 8.

<sup>159</sup> *Id.*

<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> *Id.* at 7.

<sup>163</sup> *Id.* at 12-13.

<sup>164</sup> *Id.* at 7. The Facility's potential air emissions are described in detail in the PSD air permit application provided as Exhibit No. 5, Attached Exhibit 2, Appendix B.

<sup>165</sup> Exhibit No. 5, at 13.

<sup>166</sup> *Id.*

<sup>167</sup> *Id.* at 13-14.

winter, or (2) the Facility must utilize evaporative coolers for energy efficiency during high ambient temperatures (*i.e.*, during the summer months).<sup>168</sup> Under normal operating conditions, however, the Facility will require 90,000 gallons of water per day.<sup>169</sup> The Facility will consume approximately 30,000 gallons and return approximately 60,000 gallons each day to the Shenandoah River through its water supplier.<sup>170</sup>

Mr. Eiden explained that, during periods of low flow in the Shenandoah River or when distillate oil firing is necessary, the Facility will manage its water demand through the use of an on-site reserve tank that will store three million gallons of water.<sup>171</sup> The storage tank will provide a supply of water for approximately 33 days of plant operation using natural gas firing and for approximately 10 days when using distillate oil firing.<sup>172</sup>

Mr. Eiden testified that Warren County and the Town of Front Royal (“Front Royal”) have an agreement (subject to amendment) whereby Front Royal will provide water and sewer services to the Industrial Park.<sup>173</sup> Front Royal currently is permitted to withdraw and treat up to three millions of water per day from the Shenandoah River, although a maximum of 288,000 gallons of water per day will be provided to CPV Warren.<sup>174</sup> Front Royal has assured CPV Warren that it has sufficient capacity to meet both the municipal water needs and those of the Facility, as well as to meet future increases in water demands.<sup>175</sup> In addition, Mr. Eiden stated that all wastewater from the Facility will be returned to the Front Royal Wastewater Treatment Plan with a permitted outfall to the Shenandoah River.<sup>176</sup>

Because Front Royal will satisfy the Facility’s water needs and accept wastewater from the Facility, CPV Warren will not be required to obtain water withdrawal permits or wastewater discharge permits.<sup>177</sup> For the same reason, no groundwater withdrawals will be made for power generation purposes.<sup>178</sup>

Noise. Mr. Eiden stated that after conducting a noise analysis, CPV Warren agreed as a condition of the CUP that the noise levels at the Facility during commercial operation will not exceed 65 decibels (“dBA”) at the Facility’s northern, southern, and western boundaries.<sup>179</sup> On the eastern boundary of the site adjoining the Norfolk Southern rail line, noise levels will be restricted to 76 dBA or less.<sup>180</sup> In addition, Mr. Eiden confirmed that CPV Warren will ensure

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<sup>168</sup> *Id.* at 14.

<sup>169</sup> *Id.*

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

<sup>172</sup> *Id.*

<sup>173</sup> *Id.* at 14-15.

<sup>174</sup> *Id.* at 15.

<sup>175</sup> *Id.*

<sup>176</sup> *Id.*

<sup>177</sup> *Id.*

<sup>178</sup> *Id.*

<sup>179</sup> *Id.* at 16.

<sup>180</sup> *Id.*

that noise levels attributable to the Facility's construction activities will not exceed 65 dBA at any property line between the hours of 7:00 p.m. and 7:00 a.m.<sup>181</sup>

Traffic. Mr. Eiden contended that a traffic analysis conducted for CPV Warren demonstrated that the Facility's construction and operation will not create or exacerbate traffic congestion near the site due to three related factors: (1) improvements at the key intersection near the site already planned by the Virginia DOT and Warren County; (2) the relatively low worker and delivery traffic associated with the Facility's peak construction period; and (3) the existing level of traffic in the vicinity of the site.<sup>182</sup> Mr. Eiden stated that, as part of CPV Warren's site development plan, CPV Warren will submit a construction traffic management plan to VDOT.<sup>183</sup> Further, he confirmed that if circumstances require, CPV Warren commits to: (1) hire off-duty police officers to direct traffic to minimize any impacts to traffic and safety, and (2) repair any damage caused by Facility-related traffic to the portion of Kelley Road that is not maintained by Virginia.<sup>184</sup>

Lighting. Mr. Eiden testified that CPV Warren will install perimeter lighting and lighting for some of the Facility's equipment, in compliance with Section 180-49.2 of the Warren County Code.<sup>185</sup> To the extent possible, the lighting will be directed downward and inward to minimize levels of light visible from surrounding properties.<sup>186</sup> Mr. Eiden maintained that the light at the Facility's property boundaries will not exceed 0.5 foot-candles.<sup>187</sup> Where special requirements necessitate a higher lighting intensity, site lighting will not exceed 5.5 foot-candles, and such lighting will be approved in advance by the Warren County Planning Director.<sup>188</sup>

Historic Resources. Mr. Eiden testified that TRC, on behalf of CPV Warren, conducted a Phase Ia record review of the archaeological, historic, scenic, and cultural resources on and in the vicinity of the Facility's proposed site.<sup>189</sup> TRC found that: (i) no archeological sites are located on the site, although 28 archeological sites are located within a two-mile radius of the Facility; and (ii) no historic resources are recorded on the site, although 16 historic resources have been identified within a one-mile radius and an additional 40 historic resources have been identified within a two-mile radius.<sup>190</sup> The Front Royal Recreational Park Historic District, located approximately one-half mile from the proposed site, is the only historic resource in proximity to the Facility that has been listed on the National Register of Historic Places.<sup>191</sup> According to Mr. Eiden, none of the recorded archeological or historic resources should be disturbed by

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<sup>181</sup> *Id.*

<sup>182</sup> *Id.*

<sup>183</sup> *Id.* at 17.

<sup>184</sup> *Id.* at 17-18.

<sup>185</sup> *Id.* at 18.

<sup>186</sup> *Id.*

<sup>187</sup> *Id.*

<sup>188</sup> *Id.*

<sup>189</sup> *Id.* at 19.

<sup>190</sup> *Id.*

<sup>191</sup> *Id.*

construction or operation of the Facility because they are not located on the proposed site.<sup>192</sup> Moreover, in a letter dated July 22, 2002, from Marc Holma of the Virginia Department of Historic Resources (“DHR”) to Steven P. Damiano of TRC, Mr. Holma acknowledged receipt of supplementary material from TRC and requested additional information addressing architectural resources.<sup>193</sup> At the hearing, Mr. Eiden testified that TRC, on behalf of CPV Warren, was in the process of providing the requested information to DHR.<sup>194</sup>

Natural Heritage Resources. Mr. Eiden stated that CPV Warren asked the Virginia Department of Conservation and Recreation, Division of Natural Heritage (“DCR-DNH”), to conduct a data research and project review of the Facility’s site.<sup>195</sup> In this regard, DCR-DNH investigated the occurrence of rare, threatened, or endangered species; their habitats; and all other natural heritage resources on or in the vicinity of the Facility’s site.<sup>196</sup> DCR-DNH concluded that, although certain natural heritage resources are located on the site, the Facility is not expected to adversely impact these resources due to the scope of the Facility’s activity and the distance of the Facility from these resources.<sup>197</sup>

Physical And Geological Characteristics. Mr. Eiden testified that the physical and geological characteristics of the proposed site indicate it is a suitable location for CPV Warren’s Facility.<sup>198</sup> Karst formations (consisting of dolomitic limestone, dolomite, sandstone, and chert) are the primary geological characteristics of the site.<sup>199</sup> The site possesses no other unique physical or geological features, and it is at relatively low risk for damage from earthquakes.<sup>200</sup>

Wetlands. Mr. Eiden stated that no streams or wetlands are located on the proposed site.<sup>201</sup> In addition, the Shenandoah River is located approximately 2,000 feet to the south of the site, meaning the Facility will be situated well above the floodplain.<sup>202</sup> For these reasons, CPV Warren will not be required to obtain wetland regulatory authorizations.<sup>203</sup>

Recreational, Agricultural, And Forest Resources. Mr. Eiden confirmed that because the proposed site is located in an industrial zone, the Facility will not be constructed on or in the immediate vicinity of agricultural resources.<sup>204</sup> The nearest park or recreational facility is located two miles from the proposed site, and the Shenandoah National Park is located approximately 6.8 km away. Overall, the proposed site has very little, if any, value for forestry operations,

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<sup>192</sup> *Id.*

<sup>193</sup> Exhibit No. 7.

<sup>194</sup> Eiden, Tr. at 96-98.

<sup>195</sup> Exhibit No. 5, at 19.

<sup>196</sup> *Id.*

<sup>197</sup> *Id.* at 20.

<sup>198</sup> *Id.* at 21.

<sup>199</sup> *Id.*

<sup>200</sup> *Id.*

<sup>201</sup> *Id.*

<sup>202</sup> *Id.*

<sup>203</sup> *Id.*

<sup>204</sup> *Id.* at 22.

recreation, or agricultural use. According to Mr. Eiden, construction and operation of the Facility will neither impact, nor generate additional use of, local forestry, recreational, and agricultural resources.<sup>205</sup>

*Solid And Hazardous Wastes.* Mr. Eiden testified that CPV Warren will not store either solid or hazardous wastes on the Facility's site.<sup>206</sup> Moreover, the minimal amount of waste produced by the Facility's operations will not burden local landfills or solid waste disposal facilities.<sup>207</sup>

*Chemical Storage.* Mr. Eiden affirmed that in operating the proposed Facility, CPV Warren will utilize relatively small amounts of the following chemicals: aqueous ammonia (19% solution), oxygen scavenger and neutralizing amine, phosphate polymer solution, distillate fuel oil, and other laboratory analytical reagents.<sup>208</sup> Mr. Eiden testified that CPV Warren will comply with all spill control standards under federal, state, and local law by storing these chemicals in tanks, totes, and drums held in diked areas.<sup>209</sup> Specifically, aqueous ammonia delivered by rail or truck will be unloaded or transferred within a fully contained and diked concrete handling area.<sup>210</sup> The distillate fuel oil used at the Facility will be stored in a double-walled tank, which will be located within a bermed containment area.<sup>211</sup>

*Pesticide And Herbicide Use.* According to Mr. Eiden, CPV Warren does not anticipate using pesticides or herbicides during construction or operation of the Facility.<sup>212</sup> If, for some reason, CPV Warren were to use such chemicals, CPV Warren commits to using them in strict accordance with the manufacturers' guidelines.<sup>213</sup>

*Emergency Response Training.* Mr. Eiden testified that CPV Warren employees will be trained to provide the first response in the unlikely event of an emergency, fire, or chemical spill at the proposed Facility.<sup>214</sup> Specifically, CPV Warren's employees will be trained to handle all chemicals used or stored on-site, to respond to any chemical spills, and to provide other emergency responses at the Facility.<sup>215</sup> CPV Warren will provide the Warren County Fire Chief and Administrator with copies of all emergency plans, building plans designating the locations of hazardous and/or flammable materials, and Material Safety Data Sheets for any chemicals used on-site.<sup>216</sup> In addition, CPV Warren will hold annual training sessions at the Facility to educate

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<sup>205</sup> *Id.*

<sup>206</sup> *Id.*

<sup>207</sup> *Id.*

<sup>208</sup> *Id.* at 23.

<sup>209</sup> *Id.*

<sup>210</sup> *Id.*

<sup>211</sup> *Id.*

<sup>212</sup> *Id.*

<sup>213</sup> *Id.*

<sup>214</sup> *Id.*

<sup>215</sup> *Id.* at 23-24.

<sup>216</sup> *Id.* at 24.

Warren County fire and emergency response personnel about equipment locations and potential fire hazards.<sup>217</sup>

*Proximity Of Fire And Rescue Services.* According to Mr. Eiden, the Front Royal Fire Station would be the first response station for any emergency at the Facility because it has the equipment and personnel to respond to both fire and medical emergencies.<sup>218</sup> The Station is located approximately four miles away from the Facility, meaning that its response time would be approximately ten minutes.<sup>219</sup> In addition, Mr. Eiden noted that the proposed site for the Facility has existing fire hydrants with adequate water pressure for responding to an emergency.<sup>220</sup> Should additional fire hydrants be required, CPV Warren will install them along Kelley Drive.<sup>221</sup>

Mr. Eiden testified that CPV Warren has committed \$100,000 to the construction of a new Fire Station No. 10, which is expected to be completed before the commencement of operations at CPV Warren's proposed Facility.<sup>222</sup> Response time from the new Station No. 10 to the Facility would be approximately five minutes.<sup>223</sup>

*Monitoring.* Mr. Eiden testified that CPV Warren will implement environmental monitoring and management procedures to ensure full compliance with all applicable laws, regulations, and permit conditions.<sup>224</sup> Notably, CPV Warren will continuously monitor the Facility's emissions to ensure that they do not exceed permissible health-based limits.<sup>225</sup>

## **2. CPV Warren's Prefiled Supplemental Testimony**

On January 16, 2002, shortly before CPV Warren filed its application in this proceeding, the Commission remanded the application of Tenaska Power Partners, L.P., ("*Tenaska*") for a certificate to construct a new electric generating facility.<sup>226</sup> The Commission remanded *Tenaska's* application to the Hearing Examiner to receive additional evidence on certain environmental issues, including the cumulative air quality impacts of *Tenaska's* proposed facility in combination with other facilities.<sup>227</sup> On April 29, 2002, the Commission issued orders in three other Certificate proceedings remanding those applications for further consideration of

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<sup>217</sup> *Id.*

<sup>218</sup> *Id.*

<sup>219</sup> *Id.*

<sup>220</sup> *Id.*

<sup>221</sup> *Id.*

<sup>222</sup> *Id.* at 24-25, Attached Exhibit 5.

<sup>223</sup> *Id.* at 24.

<sup>224</sup> *Id.* at 25.

<sup>225</sup> *Id.*

<sup>226</sup> *Application of Tenaska Virginia Partners, L.P., For approval of a certificate of public convenience and necessity pursuant to Virginia Code § 56-265.2, an exemption from Chapter 10 of Title 56, and interim approval to make financial commitments and undertake preliminary construction work*, Case No. PUE-2001-00039, Order (January 16, 2002).

<sup>227</sup> *Id.* at 25-27.

cumulative air quality impacts, among other things.<sup>228</sup> Finally, in connection with a generation project proposed by CPV Cunningham Creek in Fluvanna County, Virginia, the Hearing Examiner issued a ruling directing the applicant to file supplemental information addressing cumulative air quality impacts and other issues raised by public witnesses.<sup>229</sup> To respond proactively to the Commission's demonstrated interest in developing a factual record regarding potential cumulative air quality impacts, CPV Warren moved on June 27, 2002, to supplement its Application in this proceeding with prefiled testimony responsive to that issue. CPV Warren's unopposed motion was granted in a Hearing Examiner's Ruling dated July 17, 2002.

CPV Warren presented its prefiled supplemental testimony through two witnesses: Frederick M. Sellars, vice president and national director of energy facilities permitting for TRC; and Harry Vidas, vice president of Energy and Environmental Analysis, Inc. ("EEA"). Both witnesses testified at the evidentiary hearing and were available for cross-examination by Staff.

a. Mr. Sellars' Testimony

Mr. Sellars' testimony addressed cumulative air quality impacts from existing and proposed power plants, including CPV Warren's Facility.<sup>230</sup> Mr. Sellars discussed the PSD permitting process and the cumulative air quality impact analyses conducted by CPV Warren, DEQ, and Tenaska. He also responded to the testimony of public witness Dan Holmes and addressed air quality concerns raised by Commissioner Moore in his dissenting opinion in the *Tenaska* proceeding.

PSD Permitting Process. Mr. Sellars testified that Warren County is in attainment with the NAAQS for all criteria pollutants, including ozone, CO, nitrogen dioxide ("NO<sub>2</sub>"), SO<sub>2</sub>, and particulate matter with an aerodynamic diameter less than or equal to 10 microns ("PM<sub>10</sub>").<sup>231</sup> Because CPV Warren's proposed Facility will be located in an attainment area for all criteria

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<sup>228</sup> *Application of Mirant Danville, LLC, For approval of a certificate of public convenience and necessity pursuant to Va. Code § 56-265.2, an exemption from Chapter 10 of Title 56 and interim approval to make financial commitments and undertake preliminary construction work*, Case No. PUE-2001-00430, Order (April 29, 2002) ("Mirant Danville"); *Application of CinCap Martinsville, LLC, For a certificate of public convenience and necessity for electric generation facilities in the City of Martinsville*, Case No. PUE-2001-00169, Order (April 29, 2002) ("CinCap Martinsville"); *Application of Kinder Morgan Virginia, LLC, For approval of a certificate of public convenience and necessity pursuant to Va. Code § 56-265.2, an exemption from Chapter 10 of Title 56 and interim approval to make financial commitments and undertake preliminary construction work*, Case No. PUE-2001-00423, Order (April 29, 2002) ("Kinder Morgan").

<sup>229</sup> *Application of CPV Cunningham Creek LLC, For approval of electrical generating facilities pursuant to Va. Code § 56-580 D, for waiver of certain filing requirements, for confidential treatment of certain information, and for a certificate of public convenience and necessity pursuant to § 56-265.2, for an exemption from Chapter 10 of Title 56, and for interim authority to make financial expenditures*, Case No. PUE-2001-00477, Hearing Examiner's Ruling (May 17, 2002).

<sup>230</sup> Exhibit No. 13.

<sup>231</sup> *Id.* at 7-8.

pollutants, CPV Warren is required to obtain an air permit from DEQ under the PSD permitting process.<sup>232</sup> To obtain a PSD permit, CPV Warren is required to demonstrate that the Facility: (i) will minimize emissions through application of BACT; (ii) will not cause or contribute to a violation of applicable NAAQS; and (iii) when considered cumulatively with other constructed or proposed sources, will not result in any significant deterioration of air quality.<sup>233</sup>

Mr. Sellars addressed the status of CPV Warren's PSD permit.<sup>234</sup> He testified that CPV Warren filed a PSD permit application with DEQ dated December 11, 2001, and submitted a revised permit application on January 15, 2002.<sup>235</sup> By letter dated February 15, 2002, DEQ's Valley Regional Office requested additional information from CPV Warren on the BACT that will be installed at the Facility.<sup>236</sup> CPV Warren submitted the requested information to DEQ on April 1, 2002, and at this time, the permit application is under review by DEQ.<sup>237</sup> Mr. Sellars testified that DEQ held a public hearing on April 18, 2002, to provide the public with an opportunity to discuss CPV Warren's permit application.<sup>238</sup> In addition, the public will be entitled to review and comment on the draft PSD permit before DEQ issues a final permit to CPV Warren.<sup>239</sup>

Mr. Sellars testified that, through the PSD permitting process, DEQ will impose air quality-related conditions on the Facility's operation.<sup>240</sup> DEQ, for example, has recently determined that the BACT standard for similar sources burning natural gas at full load is 2.5 parts per million ("ppm") for NO<sub>x</sub>.<sup>241</sup> CPV Warren's PSD permit application proposed an emission limit of 3.0 ppm for NO<sub>x</sub>, but it is likely that DEQ will impose the lower emission limit in CPV Warren's final PSD permit.<sup>242</sup> The permit also will require the Facility to run primarily on natural gas, an inherently clean fuel.<sup>243</sup> To promote fuel diversity and to ensure flexibility in the event of unreliable market conditions, CPV Warren has sought permission to operate using ultra low-sulfur distillate fuel oil (0.01%) for a maximum of 720 hours per year (the equivalent of 30 days), although it is unlikely that the Facility will operate at this maximum level.<sup>244</sup> In the event that CPV Warren must operate the Facility using backup fuel oil, Mr. Sellars testified that CPV Warren will limit its oil use to the period between November 1st through March 31st.<sup>245</sup> These restrictions on the use of backup fuel oil already have been imposed on CPV Warren as a

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<sup>232</sup> *Id.* at 8-9.

<sup>233</sup> *Id.* at 5.

<sup>234</sup> *Id.*

<sup>235</sup> *Id.*; Exhibit No. 5, Attached Exhibit 2, Appendix B.

<sup>236</sup> Exhibit No. 13, at 5.

<sup>237</sup> *Id.*

<sup>238</sup> *Id.* at 6.

<sup>239</sup> *Id.*

<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

<sup>242</sup> *Id.*

<sup>243</sup> *Id.*

<sup>244</sup> *Id.*

<sup>245</sup> *Id.* at 6-7.

condition of the CUP issued by the Warren County Board of Supervisors.<sup>246</sup> CPV Warren also has committed to employ state-of-the-art combustion technology, a SCR system to control NO<sub>x</sub> emissions, and an oxidation catalyst to control CO emissions.<sup>247</sup>

According to Mr. Sellars, the BACT proposed by CPV Warren will ensure that emissions from CPV Warren's proposed Facility will be extraordinarily low when compared to existing power generation facilities in Virginia.<sup>248</sup> As illustrated by Exhibit 3 to Mr. Sellars' testimony, the Facility's annual NO<sub>x</sub> emissions will be more than 20 times lower than the NO<sub>x</sub> emissions (in 1999) from the coal-fired Bremo Bluff Power Station in Fluvanna County, Virginia, which has only half the power output as CPV Warren's Facility.<sup>249</sup> The Facility's annual emissions will be more than 250 times lower for SO<sub>2</sub> than those emitted from Bremo.<sup>250</sup>

Mr. Sellars testified that the PSD permitting process incorporates several mechanisms designed to maintain air quality in national parks and wilderness areas, many of which are designated as "Class I" areas under the PSD program.<sup>251</sup> The PSD program requires proposed facilities to perform separate screening analyses assessing significant impact levels ("SILs") in Class I and Class II (*i.e.*, non-park) areas.<sup>252</sup> The Class I SILs are smaller than the already stringent Class II SILs.<sup>253</sup> Therefore, if a proposed facility has a very small impact to air quality at a Class I area, it still would be required to conduct a comprehensive NAAQS compliance analysis.<sup>254</sup> The PSD increments are also much smaller in Class I areas than for Class II areas.<sup>255</sup> In addition, if a facility may have a significant (*i.e.*, greater than an SIL) impact on a Class I area, the federal land manager ("FLM") may require the applicant to conduct a cumulative impacts analysis to determine whether the facility will have an adverse impact on air quality-related values ("AQRVs").<sup>256</sup> For this reason, each PSD permit applicant must demonstrate that its emissions, in combination with emissions from other recently permitted sources, do not adversely affect the AQRVs of concern in a Class I area.<sup>257</sup> With respect to CPV Warren's proposed Facility, the Class I evaluation would focus on the potential impacts to the Shenandoah National Park.<sup>258</sup>

Mr. Sellars stated that CPV Warren has committed to offset NO<sub>x</sub> emissions from its Facility by a ratio greater than 1:1 through the permanent retirement of emissions from other

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<sup>246</sup> *Id.* at n.4; Exhibit No. 5, Attached Exhibit 4.

<sup>247</sup> Exhibit No. 13, at 7.

<sup>248</sup> *Id.*

<sup>249</sup> *Id.*

<sup>250</sup> *Id.*

<sup>251</sup> Sellars, Tr. at 168-70.

<sup>252</sup> *Id.* at 169.

<sup>253</sup> *Id.* at 169-70.

<sup>254</sup> *Id.*

<sup>255</sup> Exhibit No. 13, at 10.

<sup>256</sup> *Id.* at 10-11.

<sup>257</sup> *Id.* at 11.

<sup>258</sup> *Id.*

nearby sources.<sup>259</sup> Emissions offsetting typically is required in areas that are designated as “non-attainment” with applicable air quality standards under the Clean Air Act (“CAA”).<sup>260</sup> Warren County is not a non-attainment area.<sup>261</sup> Nonetheless, given the Facility’s proximity to the Shenandoah National Park, CPV Warren volunteered to obtain the offsets and is now bound to do so under the terms of its CUP.<sup>262</sup> According to Mr. Sellars, the development of CPV Warren’s Facility should result in an overall reduction in NO<sub>x</sub> emissions in Warren County and the surrounding area because of CPV Warren’s obligation to purchase NO<sub>x</sub> offsets.<sup>263</sup>

Mr. Sellars testified that the PSD program accounts for the cumulative impacts of all new major sources with significant impacts proposed since the 1977 Amendments to the CAA.<sup>264</sup> According to Mr. Sellars, CPV Warren will be subject to the PSD permitting process because its proposed Facility will be located in an attainment area for all criteria pollutants.<sup>265</sup> Using DEQ-approved dispersion modeling techniques, CPV Warren intends to demonstrate that predicted maximum air quality impacts for the majority of pollutants and averaging times will be below the respective SILs, and that the Facility’s impact to air quality will be insignificant.<sup>266</sup> For those pollutants for which it is demonstrated that their maximum impacts are below SILs, the regulations do not require, and the DEQ will not mandate, that CPV Warren conduct a more comprehensive (*i.e.*, multi-source) modeling analysis for its Facility.<sup>267</sup> Mr. Sellars testified that such an analysis is unwarranted because the Facility’s impact to air quality will be trivial or insignificant in every respect.<sup>268</sup>

Upon cross-examination, Mr. Sellars addressed the features of CPV Warren’s proposed Facility and the PSD permitting process. First, Mr. Sellars stated that he has been responsible for the licensing of over 10,000 MW of power plants nationwide, and none are appreciably cleaner than CPV Warren’s proposed Facility.<sup>269</sup> Second, Mr. Sellars stated that CPV Warren has committed to burn ultra low-sulfur distillate fuel oil.<sup>270</sup> According to Mr. Sellars, ultra low-sulfur distillate fuel oil is expected to become widely available for commercial use within one to two years.<sup>271</sup> If DEQ incorporates CPV Warren’s commitment to burn ultra low-sulfur distillate fuel oil into CPV Warren’s air permit, then CPV Warren will be required to burn that fuel oil.<sup>272</sup> In the event that ultra low-distillate fuel oil is not available when the Facility commences operation, CPV Warren would not be permitted under its air permit to burn an alternate fuel

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<sup>259</sup> *Id.* at 11-12.

<sup>260</sup> *Id.* at 12.

<sup>261</sup> *Id.*

<sup>262</sup> *Id.*

<sup>263</sup> *Id.* at 12-13.

<sup>264</sup> *Id.* at 13.

<sup>265</sup> *Id.* at 12.

<sup>266</sup> *Id.*

<sup>267</sup> *Id.*

<sup>268</sup> *Id.*

<sup>269</sup> Sellars, Tr. at 171.

<sup>270</sup> *Id.* at 176.

<sup>271</sup> *Id.*

<sup>272</sup> *Id.*

oil.<sup>273</sup> Third, Mr. Sellars explained that two factors prevent emissions from multiple facilities from together exceeding 100% of a NAAQS standard.<sup>274</sup> The first is a physical factor: the spatial distribution of the facilities ensures that the maximum impact of each facility occurs at a different location.<sup>275</sup> Thus, even if 30 facilities each consumed 4% of a NAAQS standard, the cumulative impact of the 30 facilities would still be at 4% due to the spatial distribution of the impacts.<sup>276</sup> The next is a regulatory factor: DEQ is required by law to track the consumption of PSD increments by all sources, including major, mobile, and area sources.<sup>277</sup>

Cumulative Air Quality Impacts Analyses Relating To CPV Warren's Facility. Mr. Sellars testified that, in addition to CPV Warren's own cumulative impacts analysis, DEQ and Tenaska each conducted a cumulative air quality impacts analysis that relates to CPV Warren's Facility.<sup>278</sup> According to Mr. Sellars, the three analyses conclusively demonstrate that CPV Warren's Facility, alone or in combination with other proposed power plants, will not degrade air quality.<sup>279</sup> In comparing the analyses, Mr. Sellars testified that CPV Warren evaluated the cumulative air quality impacts of its proposed Facility and 24 electric generating facilities in Virginia that have been proposed and/or permitted but are not yet operational.<sup>280</sup> CPV Warren considered the criteria pollutants NO<sub>2</sub>, SO<sub>2</sub>, CO, and PM<sub>10</sub>.<sup>281</sup> DEQ conducted regional ozone modeling to evaluate the cumulative impact of 16 proposed facilities on regional ozone concentrations.<sup>282</sup> Tenaska conducted a cumulative impact analysis by scaling DEQ's ozone modeling to account for 23 proposed facilities, up from the 16 proposed facilities that DEQ evaluated.<sup>283</sup>

CPV Warren's Analysis: Mr. Sellars first addressed the methodology applied by TRC, on behalf of CPV Warren, in conducting the analysis.<sup>284</sup> According to Mr. Sellars, TRC conducted the cumulative modeling analysis using DEQ-approved air modeling protocol and data submitted in support of CPV Warren's PSD permit application.<sup>285</sup> The modeling protocol was expanded to include major emission sources associated with all proposed and/or permitted, but not yet operational, electric generating facilities within the Commonwealth, as well as any sources within 50 kilometers of the proposed site of the CPV Warren Facility in West Virginia.<sup>286</sup> Mr.

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<sup>273</sup> *Id.* at 176-77.

<sup>274</sup> *Id.* at 178-79

<sup>275</sup> *Id.* at 178.

<sup>276</sup> *Id.*

<sup>277</sup> *Id.* at 178-89.

<sup>278</sup> Exhibit No. 13, at 14.

<sup>279</sup> *Id.* at 22.

<sup>280</sup> *Id.* at 15.

<sup>281</sup> *Id.*

<sup>282</sup> *Id.*

<sup>283</sup> *Id.*

<sup>284</sup> *Id.* at Attached Exhibit 6.

<sup>285</sup> *Id.* at 15.

<sup>286</sup> *Id.* at 15-16.

Sellars noted that the West Virginia Department of Environmental Protection informed TRC that no new power facilities were proposed within that radius in West Virginia.<sup>287</sup>

Mr. Sellars explained that in response to a Freedom of Information Act request filed by CPV Warren and TRC, DEQ identified the 24 power generating facilities that should be included in the modeling analyses, in addition to CPV Warren's Facility.<sup>288</sup> CPV Warren and TRC requested dispersion modeling parameters for all of the proposed facilities in the Commonwealth that met the following two criteria:

- The facility has submitted an application to the DEQ, or a draft/final permit has been issued by the DEQ but the facility is not yet operating; or
- The facility is permitted but has not begun operation as of January 1, 2001.<sup>289</sup>

Next, Mr. Sellars testified that CPV Warren's analysis assumed that the worst-case background air quality levels would be experienced simultaneously with worst-case impacts from all 25 power plants, to yield estimated cumulative concentrations.<sup>290</sup> It also assumed that each of the 25 power plants would simultaneously operate at their maximum design capacity for 8,760 hours per year using the permitted fuels that produced their worst-case emission rates for the maximum allowable number of hours per year.<sup>291</sup> Further, Mr. Sellars confirmed that CPV Warren's analysis did not take credit for the emissions reductions that will occur under a variety of federal and state initiatives, including the SIP Call, the Acid Rain Program, Regional Haze regulations, and other programs.<sup>292</sup> In addition, CPV Warren's analysis did not take credit for the "displacement" of emissions from existing less efficient, higher emitting units by new facilities fired by natural gas, which also should result in substantial emissions reductions.<sup>293</sup> A summary of the maximum potential cumulative impact is summarized below:

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<sup>287</sup> *Id.* at 16.

<sup>288</sup> *Id.*

<sup>289</sup> *Id.*

<sup>290</sup> *Id.* at 17-18.

<sup>291</sup> *Id.* at 18.

<sup>292</sup> *Id.* at 18, 23-26.

<sup>293</sup> *Id.* at 18.

### Summary of Maximum Potential Cumulative Concentrations<sup>294</sup>

Pollutant	Averaging Period	Maximum Modeled Concentrations		Maximum Background Concentrations (ug/m <sup>3</sup> )	Maximum Cumulative Concentration		Class II Significance Level (ug/m <sup>3</sup> )	NAAQS (ug/m <sup>3</sup> )	PSD Class II Increment (ug/m <sup>3</sup> )
		CPV Warren Only (ug/m <sup>3</sup> )	All Sources (ug/m <sup>3</sup> )		CPV Warren Only (ug/m <sup>3</sup> )	All Sources (ug/m <sup>3</sup> )			
		<b>A</b>	<b>B</b>	<b>C</b>	<b>A + C</b>	<b>B + C</b>			
NO <sub>2</sub>	Annual	0.3	0.3	48	48.3	48.3	1	100	25
PM <sub>10</sub>	Annual	0.2	0.3	35	35.2	35.3	1	50	17
	24-Hour	6.1	6.1	83	89.1	89.1	5	150	30
SO <sub>2</sub>	Annual	0.05	0.05	29	29.05	29.05	1	80	20
	24-Hour	3.2	3.2	122	125.2	125.2	5	365	91
	3-Hour	5.7	11.1	351	356.7	362.1	25	1300	512
CO	8-Hour	4.0	26.1	6984	6988.0	7014.1	500	10000	--
	1-Hour	9.8	111.1	11523	11532.8	11643.8	2000	40000	--

According to Mr. Sellars, CPV Warren's cumulative air quality impacts analysis demonstrates that modeled concentrations from CPV Warren's proposed Facility are close to, or less than, significance levels and well below all Virginia and federal ambient air quality standards.<sup>295</sup> Modeled concentrations from CPV Warren's Facility, in combination with the 24 other proposed facilities, are very close to, or below, significance levels and well below ambient standards and PSD increments for all pollutants.<sup>296</sup> The PM<sub>10</sub> 24-hour average concentration, although slightly above the single source SIL, is well below all applicable ambient air quality standards and PSD increments.<sup>297</sup>

*DEQ's Analysis:* According to Mr. Sellars, DEQ's cumulative impacts analysis demonstrates that there would be no significant change to predicted ozone levels from the operation of 16 proposed power facilities in Virginia, even conservatively assuming the worst-case scenario in which the 16 facilities operated at their maximum design capacity using fuels that produced the worst-case NO<sub>x</sub> emissions rates for the maximum allowable hours per year.<sup>298</sup> Mr. Sellars explained that NO<sub>x</sub> is a precursor to ozone and is therefore the key pollutant in terms of potential impacts to the ozone standard.<sup>299</sup> DEQ's analysis determined that the maximum predicted change to ozone levels from the 16 proposed power plants would be approximately 2.0-2.5 ppb in a 5-grid cell (12 km x 12 km per grid cell) in Central and Southeastern Virginia.<sup>300</sup> Mr. Sellars indicated that modeling results in this range (1 – 2.5 ppb) demonstrate that the predicted air quality impacts of the 16 proposed facilities represent less than 3% of the existing maximum measured ozone concentrations in these areas, such that the predicted increases in the total ozone concentrations in these areas are less than the accuracy achieved by the ozone monitoring equipment.<sup>301</sup>

<sup>294</sup> *Id.* Attachment 6, at 2-11.

<sup>295</sup> *Id.* at 17.

<sup>296</sup> *Id.*

<sup>297</sup> *Id.*

<sup>298</sup> *Id.* at 19.

<sup>299</sup> *Id.*

<sup>300</sup> *Id.*

<sup>301</sup> *Id.*

Mr. Sellars testified that DEQ's analysis did not take into account the NO<sub>x</sub> emission reductions that will occur through the NO<sub>x</sub> SIP Call, a cap-and-trade allowance program that will reduce NO<sub>x</sub> emissions from Virginia sources.<sup>302</sup> Under the SIP Call, EPA has established a summertime cap on NO<sub>x</sub> emissions from electric generating units and large industrial boilers at levels considerably lower than current emissions.<sup>303</sup> Compliance is required by May 2004, before CPV Warren's proposed Facility is scheduled to commence operations.<sup>304</sup> The NO<sub>x</sub> SIP Call is expected to reduce NO<sub>x</sub> emissions by more than 60% by 2004.<sup>305</sup> In addition, DEQ did not factor into its analysis CPV Warren's commitment in this proceeding to offset NO<sub>x</sub> emissions at a greater than 1:1 ratio.<sup>306</sup> According to Mr. Sellars, these additional considerations provide a compelling basis for concluding that CPV Warren's proposed Facility, in combination with other proposed projects, will have no significant impact on ambient ozone levels in Virginia.<sup>307</sup>

*Tenaska's Analysis:* Mr. Sellars testified that Trinity Consultants ("Trinity"), on behalf of Tenaska, evaluated the cumulative potential impacts of 23 proposed electric generating facilities in Virginia, including CPV Warren's Facility.<sup>308</sup> Trinity's analysis took into account existing air quality in the area surrounding Tenaska's proposed facility, which will be located in Fluvanna County.<sup>309</sup> Mr. Sellars explained that using EPA-approved air dispersion models to estimate future worst-case air quality, Trinity modeled emissions from the 23 proposed facilities (including CPV Warren's Facility) and added a conservative estimate of the worst-case background air quality.<sup>310</sup> Trinity found that the incremental impacts of Tenaska's facility, when added to the worst-case background air quality and the potential impacts of other proposed electric generating facilities, will not cause or contribute to a violation of the NAAQS or PSD increments.<sup>311</sup>

Mr. Sellars testified that Trinity's analysis is relevant in this proceeding because it accounts for potential worst-case emissions and demonstrates that the cumulative air quality impacts from the 23 proposed facilities will be negligible.<sup>312</sup> Specifically, when Trinity scaled the results of DEQ's analysis for the 23 proposed facilities, Trinity found that the maximum ground-level ozone concentration increase would be less than 4 ppb.<sup>313</sup> Trinity concluded that the increase due to the 23 proposed plants: (i) will be no more than 5% of the NAAQS levels that the EPA has established for ground-level ozone concentrations to protect the public health and welfare, and (ii) will not cause or contribute to a violation of the ozone NAAQS in Fluvanna

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<sup>302</sup> *Id.* at 20.

<sup>303</sup> *Id.* at 23.

<sup>304</sup> *Id.*

<sup>305</sup> *Id.* at 20.

<sup>306</sup> *Id.*

<sup>307</sup> *Id.*

<sup>308</sup> *Id.* at 20-21, Attached Exhibit 8.

<sup>309</sup> *Id.* at 21.

<sup>310</sup> *Id.*

<sup>311</sup> *Id.*

<sup>312</sup> *Id.*

<sup>313</sup> *Id.* at 22.

County or the surrounding counties.<sup>314</sup> Further, like DEQ's analysis, Trinity's analysis did not account for the substantial NO<sub>x</sub> emission reductions that are expected to occur as a result of the SIP Call and did not consider CPV Warren's commitment to obtain NO<sub>x</sub> offsets at a greater than 1:1 ratio.<sup>315</sup>

Responses To The Testimony Of Mr. Holmes. At the hearing, Mr. Sellars responded to certain comments made by Mr. Holmes on air quality issues, including CPV Warren's cumulative air quality impacts analysis.<sup>316</sup>

First, in response to Mr. Holmes' questions about the nature and enforceability of CPV Warren's commitment to obtain NO<sub>x</sub> offsets, Mr. Sellars explained that CPV Warren's voluntary commitment will be treated the same as if CPV Warren had located its proposed Facility in a non-attainment area and thus was required by law to obtain the offsets.<sup>317</sup> The NO<sub>x</sub> offsets obtained by CPV Warren from a donor must be reductions from actual, surplus emissions, rather than reductions mandated by another regulatory program.<sup>318</sup> Further, CPV Warren will require the donor of the offsets to include the permit restriction in the operating permit of its own facility, to ensure that the reductions will be permanent, enforceable, and verifiable.<sup>319</sup>

Second, Mr. Sellars addressed Mr. Holmes' concern over potential impacts to air quality from CPV Warren's requested use of ultra low-sulfur distillate oil as a backup fuel.<sup>320</sup> Mr. Sellars stated that CPV Warren's cumulative air quality impacts analysis took into account whether any of the 25 facilities (including CPV Warren's proposed Facility) intended to, or proposed to, use fuel oil.<sup>321</sup> For any of the 25 facilities that had requested the use of fuel oil, CPV Warren's analysis assumed (i) for annual standards, that the facility operated at the maximum number of hours using oil; and (ii) for short-term standards, that the facility operated exclusively using oil.<sup>322</sup> Applying this conservative assumption, CPV Warren's analysis showed that the 25 facilities, viewed together, would result in a maximum concentration that represents a "small fraction" of the PSD increment.<sup>323</sup>

Third, Mr. Sellars noted that Mr. Holmes questioned whether CPV Warren had considered recently-announced facilities, including two coal-fired facilities, in its cumulative air quality impacts analysis. Although Mr. Sellars was unaware of the specific facilities alluded to by Mr. Holmes, Mr. Sellars stated that CPV Warren's analysis considered every facility that had filed an air permit application with DEQ at the time the analysis was conducted. CPV Warren did not, and could not, consider facilities announced after CPV Warren's analysis was conducted

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<sup>314</sup> *Id.*

<sup>315</sup> *Id.*

<sup>316</sup> Sellars, Tr. at 166.

<sup>317</sup> *Id.* at 165.

<sup>318</sup> *Id.*

<sup>319</sup> *Id.*

<sup>320</sup> *Id.* at 165-66.

<sup>321</sup> *Id.*

<sup>322</sup> *Id.* at 166.

<sup>323</sup> *Id.*

because data and other information for those facilities would not have been available for consideration by CPV Warren.<sup>324</sup>

Finally, Mr. Sellars addressed Mr. Holmes' concern that certain federal emissions reductions programs might not be enforceable.<sup>325</sup> Mr. Sellars stated that CPV Warren's cumulative air quality impacts analysis did not take into account certain regulatory programs that will have a beneficial impact to air quality in Virginia.<sup>326</sup> These programs include: (i) regulatory programs mandating reductions in NO<sub>x</sub> emissions, such as the NO<sub>x</sub> SIP Call; (ii) announced emissions reductions at Dominion's facilities; and (iii) the emissions reductions expected to result from the displacement of existing, higher emitting generation.<sup>327</sup> Mr. Sellars argued that, although CPV Warren did not take credit for these programs, the reductions from those programs are "very significant" and "very real," and thus should be taken into account.<sup>328</sup> For example, Mr. Sellars noted that Dominion is committed to reducing NO<sub>x</sub> and SO<sub>2</sub> emissions at its facilities by 306,000 tons per year, the equivalent in emissions of approximately 1,000 facilities such as CPV Warren's proposed Facility.<sup>329</sup>

*Comments On Commissioner Moore's Dissent.* Mr. Sellars addressed several concerns related to air quality raised by Commissioner Moore in his dissent from the majority's decision in *Tenaska*.<sup>330</sup> Although Commissioner Moore's concerns arose from Tenaska's cumulative air quality impacts analysis, Mr. Sellars explained that his testimony responded to those concerns as they apply to CPV Warren's cumulative air quality impacts analysis in Warren County.<sup>331</sup>

First, Mr. Sellars addressed Commissioner Moore's observation that pollution concentration levels near (but not above) the NAAQS levels do matter in assessing the impact of additional pollution concentrations.<sup>332</sup> Mr. Sellars agreed with that comment, and testified that the PSD program is designed to assure that unacceptable degradation of air quality in attainment areas (such as Warren County) does not occur.<sup>333</sup> According to Mr. Sellars, the vehicles for achieving this objective are the PSD "increments," which represent the maximum allowable increase of a criteria pollutant's concentration anywhere in the atmosphere (beyond which an impermissible degradation to air quality has occurred).<sup>334</sup>

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<sup>324</sup> *Id.* at 166-67.

<sup>325</sup> *Id.* at 167-68.

<sup>326</sup> *Id.* at 167.

<sup>327</sup> *Id.*

<sup>328</sup> *Id.* at 167-68.

<sup>329</sup> *Id.*

<sup>330</sup> Exhibit No. 13, at 27-32; *See Application of Tenaska Virginia Partners, L.P., For approval of a certificate of public convenience and necessity pursuant to Virginia Code § 56-265.2, and exemption from Chapter 10 of Title 56, and interim approval to make financial commitments and undertake preliminary construction work*, Case No. PUE-2001-00039, Final Order (April 19, 2002) Dissent of Commissioner Moore ("*Moore Dissent*").

<sup>331</sup> Exhibit No. 13, at 27.

<sup>332</sup> *Id.*; *See Moore Dissent* at 2.

<sup>333</sup> Exhibit No. 13, at 27.

<sup>334</sup> *Id.*

Second, Mr. Sellars addressed Commissioner Moore's concerns that Tenaska's analysis showed unacceptably high concentrations of PM<sub>10</sub> and CO in Fluvanna County and the surrounding area.<sup>335</sup> According to Mr. Sellars, CPV Warren's analysis demonstrates that no PSD increments will be exceeded, or come close to being exceeded, by the operation of CPV Warren's proposed Facility, either alone or in combination with other proposed power plants.<sup>336</sup> He maintained that it is safe and appropriate to conclude that the Facility will not increase pollution concentration levels by an unacceptable level.<sup>337</sup>

In particular, Commission Moore observed that (i) "for PM<sub>10</sub> and the eight-hour CO analyses, the background or current air quality is between 55% and 65% of the maximum allowed concentrations," and (ii) Tenaska "failed to explain why we should not be concerned when concentration levels are 50% to 60% of the allowed limits . . . ."<sup>338</sup> Mr. Sellars testified that Tenaska's analysis assumed very conservative background pollution concentration levels which greatly overstated actual pollution levels in Fluvanna County.<sup>339</sup> To address this concern, Mr. Sellars included DEQ's estimates of existing background concentrations for PM<sub>10</sub> and CO in Warren County.<sup>340</sup> Mr. Sellars verified that DEQ's estimates of existing background concentrations are substantially lower than Trinity's conservative estimates for Fluvanna County, and they confirm that the existing PM<sub>10</sub> and CO concentrations in Warren County are much more closely aligned in percentage to the NO<sub>2</sub>, SO<sub>2</sub>, and one-hour CO levels apparently found acceptable by Commissioner Moore in the *Tenaska* proceeding.<sup>341</sup>

Third, Mr. Sellars commented on Commissioner Moore's concern over the amount of increase in pollution concentrations the Tenaska facility would contribute to existing pollution levels, regardless of how close the existing levels were to the NAAQS.<sup>342</sup> Mr. Sellars noted that with respect to most pollutants evaluated in CPV Warren's analysis, the cumulative impacts are well below the single source SILs (*i.e.*, at a level that would be characterized by DEQ and EPA as trivial).<sup>343</sup> Next, Mr. Sellars explained that Tenaska apparently failed to explain the effect of spatial distribution in its modeling.<sup>344</sup> According to Mr. Sellars, if a study shows that a maximum predicted concentration is 10% of existing background levels, this does not mean that air quality across the county would degrade by 10%.<sup>345</sup> The maximum predicted concentrations assumed in both Tenaska's and CPV Warren's analyses are based on the single receptor that captures the maximum impact, and that maximum impact is used as a conservative surrogate for

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<sup>335</sup> *Id.*; *Moore Dissent* at 4.

<sup>336</sup> Exhibit No. 13, at 27-28.

<sup>337</sup> *Id.* at 28.

<sup>338</sup> *Id.*; *Moore Dissent* at 4.

<sup>339</sup> Exhibit No. 13, at 28.

<sup>340</sup> *Id.*; *Id.* Attached Exhibit 6, Table 2-3."

<sup>341</sup> *Id.* at 28.

<sup>342</sup> *Id.*; *Moore Dissent* at 2.

<sup>343</sup> Exhibit No. 13, at 28.

<sup>344</sup> *Id.*

<sup>345</sup> *Id.* at 28-29.

the air quality everywhere.<sup>346</sup> For most locations within the modeling study area, Mr. Sellars testified that maximum predicated impacts would be a “small fraction” of those predicted at the maximum-impact receptor.<sup>347</sup>

Fourth, Mr. Sellars addressed Commissioner Moore’s conclusion that Tenaska failed to consider adequately, or introduce monitoring data with respect to, the new emission standards for particulate matter with an aerodynamic diameter less than or equal to 2.5 microns, known as “PM<sub>2.5</sub>” which take effect in 2007.<sup>348</sup> Mr. Sellars testified he agreed in part with that point, and therefore he submitted as part of his testimony DEQ’s regional summary of PM<sub>2.5</sub> monitoring data in Virginia for 2001, the most recent data available.<sup>349</sup> The maximum annual concentrations of PM<sub>2.5</sub> range from 12 to 15.1 micrograms per cubic meter (“µg/m<sup>3</sup>”),<sup>350</sup> as compared to the proposed PM<sub>2.5</sub> NAAQS of 15 µg/m<sup>3</sup>.<sup>351</sup> Warren County should be represented by monitors falling in the middle of the 12 to 15.1 µg/m<sup>3</sup> spectrum, based on the closest monitoring locations.<sup>352</sup> The short-term, 24-hour PM<sub>2.5</sub> proposed standard is based on the second highest concentration observed by the monitoring network, since one exceedence is allowed before a violation is deemed to have occurred.<sup>353</sup> The second maximum levels for the 24-hour sampling range from 32 to 42 µg/m<sup>3</sup>,<sup>354</sup> as compared to the proposed NAAQS of 65 µg/m<sup>3</sup>.<sup>355</sup> Likewise, Warren County should be expected to fall in the middle of that spectrum.<sup>356</sup>

According to Mr. Sellars, the PM<sub>2.5</sub> program is in its infancy, having recently been upheld by the courts.<sup>357</sup> DEQ recently has begun to develop plans and procedures for evaluating impacts of PM<sub>2.5</sub>, and Mr. Sellars estimated that the PM<sub>2.5</sub> program will not be implemented until 2007 at the earliest.<sup>358</sup> Mr. Sellars testified that because PM<sub>2.5</sub>, like ozone, is a regional pollutant, most impacts from PM<sub>2.5</sub> result from the emissions of precursor pollutants that react chemically in the atmosphere.<sup>359</sup> As with ozone, there will be no model to evaluate the impact of a single source, and models used to simulate the reactive process are currently in development and thus not available for use at this time.<sup>360</sup> However, Mr. Sellars noted that the primary

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<sup>346</sup> *Id.* at 29.

<sup>347</sup> *Id.*; *See Id.* Attached Exhibit 6, Figures 2-1 and 2-3 (illustrating the model receptor locations and the cumulative concentration maximum receptor locations).

<sup>348</sup> *Id.* at 29; *Moore Dissent* at 9-10.

<sup>349</sup> Exhibit No. 13, at 29, Attached Exhibit 15.

<sup>350</sup> These concentrations appear in the column of the “PM 2.5 Summary Data 2001” table marked “Annual” and in the sub-column marked “Arith. Mean” of Exhibit No. 13 Attached Exhibit 15.

<sup>351</sup> Exhibit No. 13, at 29, Attached Exhibit 15.

<sup>352</sup> *Id.*

<sup>353</sup> *Id.*

<sup>354</sup> These concentrations appear in the column of the “PM 2.5 Summary Data 2001” table marked “24-Hour Sampling” and in the sub-column marked “2nd Max.”

<sup>355</sup> Exhibit No. 13, at 29-30, Attached Exhibit 15.

<sup>356</sup> *Id.* at 30.

<sup>357</sup> *Id.*

<sup>358</sup> *Id.*

<sup>359</sup> *Id.*

<sup>360</sup> *Id.*

precursors for PM<sub>2.5</sub> are SO<sub>2</sub> and NO<sub>x</sub>, and he argued that construction of new gas-fired plants, like CPV Warren's Facility, will displace older, dirtier plants and ultimately reduce the precursor pollutants.<sup>361</sup> For this reason, Mr. Sellars contended that CPV Warren's Facility should be viewed as an important part of the solution to PM<sub>2.5</sub> concentrations in the Commonwealth.<sup>362</sup>

Fifth, Mr. Sellars commented on Commissioner Moore's criticisms that Tenaska failed to provide data regarding the current levels for ozone based on the new eight-hour standard and failed to present evidence of the attainment designation of Fluvanna County under that standard.<sup>363</sup> With respect to the second criticism, Mr. Sellars provided a list of localities recommended for ozone non-attainment designation by DEQ, showing that DEQ has not recommended that Warren County be designated as non-attainment for the eight-hour ozone standard.<sup>364</sup> With respect to the first criticism, Mr. Sellars stated that DEQ's modeling of the highest one-hour increase in ozone, based upon the cumulative impacts of 16 proposed power plants, was 2.5 ppb.<sup>365</sup> Mr. Sellars asserted that the increase in ozone concentrations for an eight-hour averaging time would be expected to be much lower.<sup>366</sup> Further, he contended that even if a 2.5 ppb increase was the predicted impact under the eight-hour standard, it is still a miniscule fraction of the proposed eight-hour ozone standard, which is 80 ppb.<sup>367</sup>

Finally, Mr. Sellars commented on Commissioner Moore's statement that before Virginia approves a power plant, data and information under the new EPA standards for ozone and PM<sub>2.5</sub> should be gathered and examined.<sup>368</sup> Mr. Sellars claimed that CPV Warren has gathered and examined the best information currently available regarding EPA's new standards.<sup>369</sup> He insisted that, under either the existing one-hour or the new eight-hour ozone standard, the proposed gas-fired plants will not threaten the attainment status of Warren County or surrounding areas from a cumulative impacts standpoint.<sup>370</sup> According to Mr. Sellars, to require applicants to wait for additional information to become available over the next five to seven years would deprive Virginia citizens of the significant environmental benefits associated with new, cleaner technology, such as that proposed for CPV Warren's Facility.<sup>371</sup> Mr. Sellars maintained that without such technology, the potential emission reductions of NO<sub>x</sub> and SO<sub>2</sub> through displacement will not occur.<sup>372</sup> Mr. Sellars concluded that, considering this factor and CPV Warren's commitment to offset its NO<sub>x</sub> emissions at a rate above those that will be emitted

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<sup>361</sup> *Id.*

<sup>362</sup> *Id.*

<sup>363</sup> *Id.*; *Moore Dissent* at 7-9.

<sup>364</sup> Exhibit No. 13, at 30-31, Attached Exhibit 16.

<sup>365</sup> *Id.* at 31.

<sup>366</sup> *Id.*

<sup>367</sup> *Id.*

<sup>368</sup> *Id.*; *Moore Dissent* at 13.

<sup>369</sup> Exhibit No. 13, at 31.

<sup>370</sup> *Id.*

<sup>371</sup> *Id.*

<sup>372</sup> *Id.*

from the proposed Facility, CPV Warren's Facility should be viewed as an integral part of the solution to existing air pollution in the Commonwealth.<sup>373</sup>

b. Mr. Vidas's Testimony

Mr. Vidas testified that, despite the positive environmental profile associated with gas-fired plants, concern has been raised regarding to the cumulative emissions impacts of the gas-fired plants currently proposed to be sited in the Commonwealth should all the proposed projects be built.<sup>374</sup> He acknowledged that, although the emissions from these plants will be significantly lower than those of existing plants in Virginia, the concern has been raised that the proposed gas-fired plants could add to the overall environmental loading in Virginia, especially if they export power to other states.<sup>375</sup> Further, Mr. Vidas stated that, to address these concerns, CPV Warren requested that Energy and Environmental Analysis, Inc. ("EEA") conduct a study (the "Displacement Study") evaluating how the gas-fired plants proposed to be sited in Virginia, including CPV Warren's proposed Facility in Warren County, will displace existing, higher emitting generation, and whether such displacement will result in a significant emissions benefit for Virginia.<sup>376</sup>

Summary Of Displacement Study. Mr. Vidas testified that the analysis used in the Displacement Study calculated where the proposed gas-fired plants will fit in the Commonwealth's generation mix and what existing generation will thereby be displaced by their dispatch.<sup>377</sup> He explained that the analysis in the Displacement Study was evaluated against a year 2000 baseline and included projections for both 2004 and 2010.<sup>378</sup> Mr. Vidas maintained that the analysis conservatively assumed that all 19 of the currently proposed projects will be built and operated, and that there will be a 2.1% annual growth in electricity demand.<sup>379</sup>

Mr. Vidas testified that the Displacement Study demonstrates that if no new power plants are built in Virginia, the growth in electricity demand will be met by existing coal and heavy oil-fired plants.<sup>380</sup> In addition, he contended that if the new gas-fired plants are built they will displace generation from these existing plants, especially the heavy oil-fired plants.<sup>381</sup> Mr. Vidas explained that, while the old plants may not be shut down, some of them will operate less because of the addition of the new gas-fired plants.<sup>382</sup> Mr. Vidas asserted that, because the new plants are many times cleaner than any existing fossil-fueled plants in Virginia, their displacement of generation produced by existing plants will create significant emission

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<sup>373</sup> *Id.* at 31-32.

<sup>374</sup> Exhibit No. 14, at 2.

<sup>375</sup> *Id.*

<sup>376</sup> *Id.*

<sup>377</sup> *Id.* at 4.

<sup>378</sup> *Id.*; Vidas, Tr. at 201.

<sup>379</sup> Exhibit No. 14, at 4-5.

<sup>380</sup> *Id.* at 5.

<sup>381</sup> *Id.*

<sup>382</sup> *Id.*

reductions.<sup>383</sup> Mr. Vidas provided that, even using very conservative assumptions, the Displacement Study projects that the operation of the new plants will reduce NO<sub>x</sub> emissions by 23% and SO<sub>2</sub> emissions by 18% in 2004.<sup>384</sup> In 2010, the new plants will reduce emissions of NO<sub>x</sub> by approximately 45% and SO<sub>2</sub> by approximately 42%.<sup>385</sup> Finally, Mr. Vidas testified that, on a “tons/year” basis, that same emission reduction benefit translates to 53,000 to 105,000 tons of SO<sub>2</sub> and 14,000 to 35,000 tons of NO<sub>x</sub>.<sup>386</sup>

Mr. Vidas testified that the Displacement Study concludes that if the Facility is operating in 2004, it will provide almost 3% of the total Virginia generation.<sup>387</sup> He argued that because the Facility is so much cleaner than existing plants, overall emissions will be reduced.<sup>388</sup> Specifically, Mr. Vidas asserted that NO<sub>x</sub> and SO<sub>2</sub> will be reduced 4% and 2%, respectively, compared to the case in which the Facility is not built.<sup>389</sup> Mr. Vidas showed that the results are the same in the 2010 case.<sup>390</sup>

Furthermore, Mr. Vidas addressed the concern that the new gas-fired plants built in Virginia may be used to export electricity to other states, thereby contributing to in-state emissions without providing Virginia residents any additional electricity.<sup>391</sup> Mr. Vidas explained that the Displacement Study also evaluates the potential for these new plants to export power rather than serve customers in Virginia.<sup>392</sup> Mr. Vidas testified that the Displacement Study concludes that Virginia is currently importing a significant amount of electricity, and that the new plants are likely to serve this in-state load before exporting to other states.<sup>393</sup> Moreover, Mr. Vidas stated the Displacement Study concludes that there is a significant amount of new generation being built in surrounding states that will serve load in those other states.<sup>394</sup> In addition, Mr. Vidas pointed out that the transmission lines to the Northeast markets are limited and there is a substantial amount of new generation proposed in the states between Virginia and the Northeast that would have better access to these markets than plants in Virginia.<sup>395</sup> Nonetheless, Mr. Vidas testified that even in those cases where electricity from the new plants is exported, the new plants still create a significant new emission reduction because of their beneficial impact on in-state generation.<sup>396</sup>

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<sup>383</sup> *Id.*

<sup>384</sup> *Id.*

<sup>385</sup> *Id.*

<sup>386</sup> *Id.*

<sup>387</sup> *Id.*

<sup>388</sup> *Id.*

<sup>389</sup> *Id.* at 5-6.

<sup>390</sup> *Id.* at 6.

<sup>391</sup> *Id.*

<sup>392</sup> *Id.*

<sup>393</sup> *Id.*

<sup>394</sup> *Id.*

<sup>395</sup> *Id.*

<sup>396</sup> *Id.* at 6-7.

*Response To The Testimony Of Mr. Holmes.* At the hearing, Mr. Vidas testified that Mr. Holmes criticized the Displacement Study for making certain assumptions about the regulatory environment in which power plants would be operating in Virginia in the years 2004 and 2010.<sup>397</sup> In particular, Mr. Vidas confirmed that the Displacement Study assumed that by the year 2004, the NO<sub>x</sub> SIP Call would be in effect, which would require approximately a 55% reduction in NO<sub>x</sub> emissions within Virginia.<sup>398</sup> Further, Mr. Vidas affirmed that the Displacement Study assumed that by the year 2010, the PM<sub>2.5</sub> standards would be in effect, thereby requiring a reduction in SO<sub>2</sub> emissions.<sup>399</sup> Mr. Vidas explained that the effect of the NO<sub>x</sub> SIP Call and the PM<sub>2.5</sub> standards will be to make it more expensive for generating facilities to burn dirty fuels, thereby enhancing the competitive advantage of natural gas and leading to additional displacement of dirtier facilities.<sup>400</sup>

Mr. Vidas argued that Mr. Holmes' criticism of the use of these assumptions in the Displacement Study is incorrect for two reasons.<sup>401</sup> First, Mr. Vidas testified that both the NO<sub>x</sub> SIP Call and the PM<sub>2.5</sub> standards are already legally binding, and will dictate the regulatory environment in 2004 and 2010.<sup>402</sup> Second, Mr. Vidas testified that, even if one were to accept Mr. Holmes' contention that neither the NO<sub>x</sub> SIP Call nor the PM<sub>2.5</sub> standards will be in effect, the Facility will be so clean that it will displace dirtier plants.<sup>403</sup>

### **C. Staff's Testimony**

The Staff presented the prefiled testimony of three witnesses: Gregory L. Abbott, utilities analyst in the Division of Energy Regulation; Mary E. Owens, principal financial analyst in the Division of Economics and Finance; and Mark Carsley, principal research analyst in the Division of Economics and Finance. At the hearing, William Orndorff of DCR-DNH and Thomas F. Wilcox of the Virginia Department of Game and Inland Fisheries ("DGIF") were made available for examination on the Madison Cave Isopod. In addition, Charles Turner, director of DEQ's Office of Air Permit Programs, provided rebuttal testimony addressing comments made by public witness Dan Holmes. The testimony of each of these witnesses is summarized below.

#### **1. Mr. Abbott's Testimony**

Mr. Abbott described the criteria applied by Staff in evaluating CPV Warren's Application.<sup>404</sup> Specifically, he testified that CPV Warren's Facility meets the criteria delineated in § 56-580 D of the Code.<sup>405</sup> Further, Mr. Abbott stated that Staff considered the environmental

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<sup>397</sup> Vidas, Tr. at 197.

<sup>398</sup> *Id.*

<sup>399</sup> *Id.* at 198.

<sup>400</sup> *Id.*

<sup>401</sup> *Id.*

<sup>402</sup> *Id.*

<sup>403</sup> *Id.* at 198-99.

<sup>404</sup> Exhibit No. 9, at 2-3.

<sup>405</sup> *Id.* at 12.

impact of the generating facilities and associated facilities as provided under § 56-46.1 of the Code.<sup>406</sup> Mr. Abbott affirmed Staff's position not to oppose CPV Warren's request for approval, subject to certain conditions that CPV Warren comply with DEQ's recommendations.<sup>407</sup> Mr. Abbott's findings are summarized below in the order presented in his testimony.

*System Reliability.* Mr. Abbott testified that CPV Warren's proposed Facility will interconnect on-site with a 500 kV transmission line owned by Virginia Power, allowing up to 100% of the Facility's output to be transmitted across Virginia Power's transmission system.<sup>408</sup> In addition, the Facility will interconnect on-site with a 138 kV transmission line owned by Allegheny, over which the Facility will be able to transmit up to 50% of its output.<sup>409</sup> System Impact Studies conducted independently by Virginia Power and Allegheny showed that, with appropriate upgrades, the addition of CPV Warren's Facility will have no negative impact on the reliability of either company's system.<sup>410</sup> All costs associated with CPV Warren's interconnection with either transmission line will be borne by CPV Warren.<sup>411</sup>

*Water Supply Arrangements.* Mr. Abbott addressed the water supply arrangements for the proposed Facility and provided the Power Plant Impact Evaluation Report commissioned by Warren County and prepared by Anderson & Associates, Inc.<sup>412</sup> Mr. Abbott testified that CPV Warren's use of an air-cooled condenser will greatly reduce the amount of water needed to operate the Facility.<sup>413</sup> The Facility will require only 90,000 gallons of water per day when the project is burning natural gas under normal operating conditions.<sup>414</sup> Mr. Abbott confirmed that Front Royal will provide both water and wastewater services to the Facility via pipes available on-site.<sup>415</sup> In addition, the Facility will have a 3,000,000-gallon water storage tank.<sup>416</sup> When the Facility is burning fuel oil, it is expected to draw water from this storage tank, such that a maximum of 288,000 gallons per day will be required from Front Royal.<sup>417</sup> Under either of the Facility's two operating scenarios, CPV Warren estimates that it will return a net of 60,000 gallons per day to Front Royal's wastewater treatment plant.<sup>418</sup>

*Natural Gas Delivery.* Mr. Abbott found that the Facility's combustion turbines will be fueled with natural gas delivered from Columbia Transmission's interstate pipeline facilities, located approximately 2.3 miles north of the Facility's site.<sup>419</sup> Columbia Transmission will

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<sup>406</sup> *Id.* at 2.

<sup>407</sup> *Id.* at 12.

<sup>408</sup> *Id.* at 3.

<sup>409</sup> *Id.*

<sup>410</sup> *Id.* at 3-4.

<sup>411</sup> *Id.* at 4.

<sup>412</sup> *Id.* at 4-5, Appendix A.

<sup>413</sup> *Id.* at 4.

<sup>414</sup> *Id.*

<sup>415</sup> *Id.* at 4-5.

<sup>416</sup> *Id.* at 4.

<sup>417</sup> *Id.*

<sup>418</sup> *Id.* at 5.

<sup>419</sup> *Id.*

construct a new point of delivery to tap into its two mainlines in Warren County.<sup>420</sup> In addition, Columbia Transmission will construct and own a 20-inch diameter lateral pipeline, three miles in length, to connect the Facility to the point of delivery.<sup>421</sup> Columbia Transmission will provide backhaul transportation service of up to 90,000 Dth/day to the Facility.<sup>422</sup> CPV Warren will purchase commodity gas on the spot market on a daily basis.<sup>423</sup>

*Use Of Oil As Backup Fuel.* Mr. Abbott testified that CPV Warren proposes to operate using low-sulfur distillate oil firing for a maximum of 720 hours per year (the equivalent of 30 days), although CPV Warren states that it is unlikely the Facility will operate under these maximum conditions.<sup>424</sup> At full load, the Facility will burn approximately 650,000-700,000 gallons of fuel oil per day.<sup>425</sup> CPV Warren will draw fuel oil from a 2,000,000-gallon oil storage tank located on the Facility's site.<sup>426</sup> CPV Warren intends to receive delivery of fuel oil via the Norfolk Southern rail line under normal conditions, although it may be necessary on occasion for CPV Warren to obtain fuel oil via trucks with a capacity of 8,000 gallons.<sup>427</sup>

*DEQ's Coordinated Review.* As part of the Staff's review of CPV Warren's Application, the Staff asked DEQ to review the potential environmental impacts of the proposed Facility.<sup>428</sup> DEQ coordinated a review of CPV Warren's Application and Environmental Report by the state and local agencies responsible for permits associated with CPV Warren's Facility.<sup>429</sup> In addition, DEQ hosted a meeting between reviewing agencies and CPV Warren on April 16, 2002.<sup>430</sup> The reviewing agencies subsequently submitted comments on the proposed Facility to DEQ's Division of Environmental Enhancement, which summarized the comments in its report to the Staff dated May 29, 2002.<sup>431</sup>

Based on its coordinated review, DEQ recommended the following conditions:<sup>432</sup>

- Obtain all applicable environmental permits or approvals or exceptions prior to commencement of construction activities and comply with all the conditions of permits and approvals listed in the "Regulatory and Coordination Needs" section;
- Consult with the Department of Historic Resources to complete the review with regard to historic structures;

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<sup>420</sup> *Id.*

<sup>421</sup> *Id.*

<sup>422</sup> *Id.*

<sup>423</sup> *Id.*

<sup>424</sup> *Id.* at 6.

<sup>425</sup> *Id.*

<sup>426</sup> *Id.*

<sup>427</sup> *Id.*

<sup>428</sup> *Id.*; Exhibit No. 10.

<sup>429</sup> Exhibit No. 9, at 6.

<sup>430</sup> Exhibit No. 10.

<sup>431</sup> *Id.*

<sup>432</sup> Exhibit No. 9, at 7-8; Exhibit No. 10, at 2-3.

- Redirect stormwater runoff to avoid adverse impacts to cave hydrology and water quality;
- Upgrade the stormwater management facility to reduce the likelihood of discharge of hydrocarbons into groundwater;
- Acquire land through purchase, conservation easements, or other method to protect the recharge area of nearby caves;
- Stabilize and fence the area along the east side of the Allegheny Power Company access road to protect the recharge area of the nearby caves;
- Incorporate contingencies for spill contamination into the site design;
- Coordinate with Front Royal to ensure that the Facility meets Front Royal's pre-treatment requirement for wastewater discharge;
- Follow the principles and practices of pollution prevention to the maximum extent practicable;
- Reduce solid waste at the source, re-use it, and recycle it to the maximum extent practicable;
- Limit the use of pesticides or herbicides as recommended in "Environmental Impacts and Mitigation"; and
- Protect mature, individual trees that remain on the project site through the practices and precautions stated in "Environmental Impacts and Mitigation."

Mr. Abbott noted that many of DEQ's recommendations are aimed at preventing possible impacts to the local caves that contain the Madison Cave Isopod.<sup>433</sup> He stated his belief that none of DEQ's recommendations should preclude CPV Warren from receiving a Certificate.<sup>434</sup> In addition, Mr. Abbott advised that CPV Warren has a continuing obligation to obtain all of the necessary federal, state, and local environmental permits and approvals necessary to construct the proposed Facility.<sup>435</sup>

*CPV Warren's Development Capabilities.* According to Mr. Abbott, the Staff believes that CPV Warren, with the participation of its affiliate CPV Inc., is capable of developing the proposed Facility.<sup>436</sup> CPV Inc. currently is developing ten electric generating projects in Florida, Virginia, and Georgia, and its management team has extensive experience in developing projects similar to CPV Warren's proposed Facility.<sup>437</sup>

*Site Description And Control.* Mr. Abbott noted that CPV Warren has received a CUP from the Warren County Board of Supervisors.<sup>438</sup> The CUP permits CPV Warren to build the proposed Facility on 22.7 acres of a 38.6-acre tract of land in the Industrial Park, located approximately 2.3 miles north of Interstate Route 66.<sup>439</sup> The CUP also contains conditions

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<sup>433</sup> Exhibit No. 9, at 8.

<sup>434</sup> *Id.*

<sup>435</sup> *Id.* at 7.

<sup>436</sup> *Id.* at 8-9.

<sup>437</sup> *Id.* at 8.

<sup>438</sup> *Id.* at 9.

<sup>439</sup> *Id.*

designed to address environmental, land use, and safety impacts.<sup>440</sup> Mr. Abbott determined that CPV Warren has a binding Option Agreement to purchase the two parcels of land that comprise the 38.6-acre site.<sup>441</sup>

Technical And Economic Viability. According to Mr. Abbott, the Staff found that CPV Warren has a well-developed preliminary plan for its proposed Facility.<sup>442</sup> The Staff based its conclusion on CPV Warren's project development capabilities, the reasonableness of the development plan, and CPV Warren's progress in gaining control of the site and obtaining the necessary environmental permits.<sup>443</sup> In addition, Mr. Abbott stated that as all of the output will be sold into wholesale power markets, the economic viability of the Facility turns on future wholesale prices and the deliverability of the Facility's output to those markets.<sup>444</sup> He observed that, because CPV Warren bears the financial risk of the proposed Facility, any future uncertainties related to future wholesale prices or deliverability should not affect whether CPV Warren receives a Certificate.<sup>445</sup>

Participation In And/Or Comments On This Proceeding. Mr. Abbott noted that Washington Gas Light Company filed a Notice of Participation in this proceeding, but did not file testimony.<sup>446</sup> Further, he testified that Staff has received no correspondence or phone calls either objecting to or supporting CPV Warren's proposed Facility.<sup>447</sup>

Cumulative Impacts Analysis. Mr. Abbott testified that, in the *Tenaska* proceeding, the Commission required a cumulative environmental analysis that included all existing sources of air pollution and all proposed power plants.<sup>448</sup> The Commission reaffirmed this stance on April 29, 2002, when it remanded *Mirant Danville*, *CinCap Martinsville*, and *Kinder Morgan* to allow further development of the record on cumulative environmental impacts, with specific emphasis on cumulative air quality impacts.<sup>449</sup> Mr. Abbott stated that CPV Warren filed responses to Question Nos. 35 and 36 of the Staff's third set of interrogatories, which addressed cumulative air quality impacts in the context of CPV Warren's proposed Facility.<sup>450</sup> Mr. Abbott reported that CPV Warren responded that the projected emissions from the Facility will be below the SILs for all pollutants.<sup>451</sup> Further, CPV Warren advised it intended to conduct a cumulative impacts analysis, although Mr. Abbott had not yet received the analysis by the time that he filed his testimony.<sup>452</sup>

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<sup>440</sup> *Id.*

<sup>441</sup> *Id.* at 10.

<sup>442</sup> *Id.*

<sup>443</sup> *Id.*

<sup>444</sup> *Id.*

<sup>445</sup> *Id.*

<sup>446</sup> *Id.* at 11.

<sup>447</sup> *Id.*

<sup>448</sup> *Id.*

<sup>449</sup> *Id.*

<sup>450</sup> *Id.*, Appendix D.

<sup>451</sup> *Id.*

<sup>452</sup> *Id.* at 11-12.

## 2. Ms. Owens' Testimony

Ms. Owens addressed CPV Warren's financial resources and its ability to finance the construction of the proposed Facility.<sup>453</sup> Ms. Owens testified that she did not oppose CPV Warren's request for approval, subject to the sunset provision described below, based on CPV Warren's ability to attract necessary capital and its success with related project development.<sup>454</sup>

Ms. Owens described CPV Warren as a Maryland-based limited liability company, organized under the laws of Delaware in 2001, for the purpose of developing the proposed Facility.<sup>455</sup> Ms. Owens testified that CPV Warren is a single purpose entity that will hold all of the assets and liabilities associated with the proposed Facility.<sup>456</sup> It is independently owned and has no affiliation with any incumbent utility in Virginia.<sup>457</sup>

Ms. Owens testified that CPV Warren plans to obtain approximately 50-60% of its project capitalization from non-recourse debt.<sup>458</sup> Ms. Owens reported that CPV Warren will obtain additional financing through various means; it generally anticipates most additional financing will be in the form of equity financing.<sup>459</sup> Specifically, Ms. Owens stated that CPV Warren may draw on its existing relationship with Warburg Pincus, an equity firm, or arrange private equity financing with other investors.<sup>460</sup> Ms. Owens noted that CPV Warren states that its prospective equity partners would include large, publicly-traded power generation companies.<sup>461</sup> According to CPV Warren, even if its parent company were to sell an interest in CPV Warren to another company under any of the financing scenarios, CPV Warren would continue to exist as the owner and operator of the Facility.<sup>462</sup> Ms. Owens expressed concern that the Commission may issue a certificate to a company based on facts in an application only to have the company transform into a completely different entity through changes in ownership. However, because CPV Warren states that the prospective investors for the Facility would include large, publicly traded power generation companies, Ms. Owens concluded that CPV Warren's financial and technical fitness should remain at its current level.<sup>463</sup>

Ms. Owens examined the financial statements of CPV Warren's parent company, CPV Holdings, and its predecessor, Competitive Power Ventures, L.P., because CPV Warren, as a newly formed company, did not yet have its own financial statements.<sup>464</sup> As a private company,

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<sup>453</sup> Exhibit No. 15, at 1.

<sup>454</sup> *Id.* at 7.

<sup>455</sup> *Id.* at 2.

<sup>456</sup> *Id.*

<sup>457</sup> *Id.*

<sup>458</sup> *Id.*

<sup>459</sup> *Id.*

<sup>460</sup> *Id.* at 3.

<sup>461</sup> *Id.* at 3-4.

<sup>462</sup> *Id.* at 4.

<sup>463</sup> *Id.* at 6.

<sup>464</sup> *Id.* at 4.

CPV Warren does not have access to the public equity markets, nor has it issued debts in the public markets.<sup>465</sup> Nonetheless, based on CPV Warren's financial statements and its success with project development to date, Ms. Owens found that CPV Warren will be able to attract the capital necessary to develop the proposed Facility.<sup>466</sup>

Finally, Ms. Owens noted that an applicant's financial status or the economics underlying a company's decision to construct a facility could change over time.<sup>467</sup> In light of these uncertainties, Ms. Owens recommended that any Certificate granted by the Commission in this proceeding include a "sunset provision," giving CPV Warren two years from the date the Commission grants the Certificate to begin construction.<sup>468</sup>

### **3. Mr. Carsley's Testimony**

Mr. Carsley addressed the economic benefits to be derived from CPV Warren's proposed Facility, as well as the impact of the Facility on the furtherance of economic competition within electric power markets in Virginia.<sup>469</sup>

Economic Benefits. Although CPV Warren did not undertake a formal economic impact analysis of the proposed Facility, Mr. Carsley concluded that the lack of such analysis did not preclude a finding that the Facility will confer net economic benefits to Warren County and the Commonwealth.<sup>470</sup> According to Mr. Carsley, the most substantial economic benefits will be derived from tax revenue and other payments to Warren County and the Commonwealth of Virginia resulting from the construction and operation of the Facility.<sup>471</sup> In an agreement with Warren County, CPV Warren has committed to pay \$1.9 million and supplemental payments per year.<sup>472</sup> Under the terms of this agreement, the supplemental payment is not considered a tax, but a payment to help mitigate possible adverse effects to the County's resources and services caused by the construction and operation of CPV Warren's Facility.<sup>473</sup> Mr. Carsley testified that CPV Warren also will be required to pay corporate income tax to the Commonwealth, and that the Company estimates that approximately 10% of its Engineering, Procurement, and Construction costs will be subject to Virginia sales tax.<sup>474</sup>

Mr. Carsley noted that CPV Warren has entered into a separate agreement with Warren County that will provide economic benefits locally.<sup>475</sup> Specifically, CPV Warren has committed to pay \$100,000 towards the cost of constructing and equipping a new volunteer fire station, as

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<sup>465</sup> *Id.* at 5.

<sup>466</sup> *Id.* at 5.

<sup>467</sup> *Id.* at 6-7.

<sup>468</sup> *Id.*

<sup>469</sup> Exhibit No. 17, at 2.

<sup>470</sup> *Id.* at 2, 4-5.

<sup>471</sup> *Id.* at 2.

<sup>472</sup> *Id.*

<sup>473</sup> *Id.*

<sup>474</sup> *Id.* at 2-3.

<sup>475</sup> *Id.* at 3.

well as \$125,000 towards improvements to State Routes 658 and 627 and the construction of a water line to connect segments of the County's water system.<sup>476</sup> Mr. Carsley reported that CPV Warren stated these infrastructure improvements are unrelated to the construction and operation of its proposed Facility.<sup>477</sup>

Mr. Carsley testified that wages and spending related to construction and operation of the Facility will generate additional economic benefits.<sup>478</sup> Mr. Carsley reported that CPV Warren estimates that during the Facility's construction phase, it will employ approximately 300 temporary workers at an average annual pre-tax wage of \$50,000. Mr. Carsley calculated that during the approximate 26- to 28-month construction period, total pre-tax wages are estimated to range from \$32.5 to \$35.0 million.<sup>479</sup> Further, CPV Warren stated it intends to hire as many skilled construction laborers and to purchase as many goods and services as possible from Warren County.<sup>480</sup> Similarly, CPV Warren is bound by the CUP to use local and in-state contractors where practicable.<sup>481</sup> When the Facility is operational, CPV Warren expects to employ 30 full-time workers at an average annual pre-tax salary of \$55,000.<sup>482</sup>

Mr. Carsley testified that the final economic benefit relates to CPV Warren's voluntary proffer to obtain NO<sub>x</sub> offsets that are modeled to benefit Warren County and are as close to the proposed Facility as possible.<sup>483</sup> CPV Warren's proffer, which was incorporated in the CUP, will assist in reducing NO<sub>x</sub> emissions in Warren County and the surrounding region.<sup>484</sup>

In addition, Mr. Carsley testified that, according to CPV Warren, these economic benefits will be achieved at little cost.<sup>485</sup> Provision for any additional costs to the County or the Commonwealth arising from construction and operation of the Facility – such as costs related to traffic, provision of emergency services, and/or provisions of education services – have been incorporated into CPV Warren's agreement with the County setting the annual payment of taxes and supplemental payments.<sup>486</sup> Moreover, CPV Warren has received no present or future financial concessions from Warren County or the Commonwealth that would reduce the economic benefits.<sup>487</sup>

*Facility Impact On Economic Competition.* Mr. Carsley testified that the Facility will operate as a merchant plant, adding approximately 520 MW of generating capacity.<sup>488</sup> Up to

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<sup>476</sup> *Id.*

<sup>477</sup> *Id.*

<sup>478</sup> *Id.*

<sup>479</sup> *Id.*

<sup>480</sup> *Id.* at 3-4.

<sup>481</sup> *Id.* at 3.

<sup>482</sup> *Id.* at 4.

<sup>483</sup> *Id.*

<sup>484</sup> *Id.*

<sup>485</sup> *Id.* at 5.

<sup>486</sup> *Id.*

<sup>487</sup> *Id.*

<sup>488</sup> *Id.* at 6.

100% of this capacity may be available in Dominion's service territory and up to 50% may be available in the service territory of Allegheny Power Systems.<sup>489</sup> Relying upon the conventional notion in the electric power industry that a positive correlation exists between market power and the ownership or control of generating capacity, Mr. Carsley testified that the addition of capacity not owned by an incumbent utility is, in general, a desirable outcome.<sup>490</sup>

However, Mr. Carsley noted that one of CPV Warren's financing options is to take on a large, publicly-traded power generation company as an equity partner.<sup>491</sup> In addition, he pointed out that CPV Warren is assessing long-term arrangements for the sale of all or a portion of the electric output of its Facility.<sup>492</sup> Mr. Carsley testified that both of these possibilities raise potential market power concerns.<sup>493</sup> Further, Mr. Carsley observed that certain economic and technical features of the electric power industry permit smaller firms to exercise market power, even if they do not control a very large proportion of the capacity in the region.<sup>494</sup> For these reasons, Mr. Carsley recommended that the Commission require CPV Warren to report to the Clerk of the Commission the name and corporate affiliation of any company that acquires an equity position in the Facility or that purchases all or part of the capacity or output of the Facility, before or after its completion, on a long-term basis of six months or more.<sup>495</sup> Mr. Carsley concluded that, from the viewpoint of economic development and growth, the Facility appears to be reasonable.<sup>496</sup> Accordingly, Mr. Carsley did not oppose CPV Warren's request for approval to construct the proposed Facility.<sup>497</sup>

#### 4. Mr. Orndorff's Testimony

Mr. Orndorff, the karst protection coordinator for DCR-DNH, explained that DCR-DNH does not issue permits, but rather provides data and submits comments to DEQ on potential impacts to Natural Heritage Resources.<sup>498</sup> DCR-DNH also provides information on threatened and endangered species to DGIF, which has regulatory authority over those species.<sup>499</sup> In this proceeding, Mr. Orndorff reviewed CPV Warren's Application and participated in the comments submitted by DCR-DNH as part of DEQ's coordinated review.<sup>500</sup> At the hearing, Mr. Orndorff described the Madison Cave Isopod and discussed DEQ's recommendations to CPV Warren for mitigating potential impacts to the cave habitat of the Isopod.<sup>501</sup>

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<sup>489</sup> *Id.*

<sup>490</sup> *Id.*

<sup>491</sup> *Id.*

<sup>492</sup> *Id.* at 7.

<sup>493</sup> *Id.*

<sup>494</sup> *Id.*

<sup>495</sup> *Id.* at 7-8.

<sup>496</sup> *Id.* at 7.

<sup>497</sup> *Id.*

<sup>498</sup> Orndorff, Tr. at 127, 140.

<sup>499</sup> *Id.* at 141-42.

<sup>500</sup> *Id.* at 127-28; *See* Exhibit No. 10, at 5-8.

<sup>501</sup> Orndorff, Tr. at 127-46.

Mr. Orndorff stated that the Madison Cave Isopod (*Antrolana lira*) is an aquatic crustacean, one to two centimeters long, that is eyeless and pigmentless.<sup>502</sup> It is listed as threatened under both the United States and the Virginia Endangered Species Acts.<sup>503</sup> The Madison Cave Isopod has prompted interest from the scientific community because it is a marine species, and it inhabits deep groundwater, making it unique compared to other isopods.<sup>504</sup> Mr. Orndorff noted that the Madison Cave Isopod has scientific value, providing clues regarding the natural history of the Shenandoah Valley and is valuable from a monitoring point of view because the health of its population in the groundwater may be evaluated as a measure of water quality.<sup>505</sup> Mr. Orndorff testified that the stormwater management facility for the Project is located within the natural topography sinkhole that includes the cave entrance to the power plant pit, where the Madison Cave Isopod was observed.<sup>506</sup> He expressed concern that stormwater runoff from the facility could carry contaminants directly into the habitat of the Madison Cave Isopod.<sup>507</sup> Mr. Orndorff testified that mitigation into the land protection helps protect some of the surrounding habitat where isopods would be found.<sup>508</sup>

Mr. Orndorff stated that the habitat of the Madison Cave Isopod is characterized by deep groundwater that is at or below the water table, called phreatic water.<sup>509</sup> Mr. Orndorff initially became aware of the Madison Cave Isopod population in the course of an unrelated survey of a cave located on the property adjacent to CPV Warren's proposed site and owned by the Fishnet Ministries (the "Fishnet Site").<sup>510</sup> After Mr. Orndorff visited the Fishnet Site several times and conducted sampling to verify the identity of the Madison Cave Isopod, DCR-DNH submitted revised comments to DEQ addressing the potential impact of CPV Warren's Facility on the Madison Cave Isopod population on the Fishnet Site.<sup>511</sup> The Fishnet Site is the tenth documented site for the Madison Cave Isopod.<sup>512</sup>

To protect the Madison Cave Isopod habitat, CPV Warren agreed to the following:<sup>513</sup>

- Contribution To Help Fund Conservation Easement. DCR has expressed its interest in either developing a conservation easement over Madison Cave Isopod habitat located on a parcel currently owned by Fishnet Ministries, Inc. near the Project site, or purchasing the property. CPV Warren, with DCR's concurrence, has agreed to contribute \$47,250 toward a fund that will be

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<sup>502</sup> *Id.* at 132-33.

<sup>503</sup> Exhibit No. 10, at 5.

<sup>504</sup> Orndorff, Tr. at 133.

<sup>505</sup> *Id.* at 133-35.

<sup>506</sup> *Id.* at 136.

<sup>507</sup> *Id.*

<sup>508</sup> *Id.* at 139.

<sup>509</sup> *Id.* at 135.

<sup>510</sup> *Id.* at 128-30.

<sup>511</sup> *Id.* at 128.

<sup>512</sup> *Id.* at 132.

<sup>513</sup> Exhibit No. 8.

administered by DCR to acquire the conservation easement or purchase the property.

- Contribution To Help Fund Monitoring. DGIF has recommended that CPV Warren contribute toward a fund that would be used to monitor potential impacts to the Madison Cave Isopod resulting from construction and operation of the Project. CPV Warren, with DGIF's concurrence, has agreed to contribute \$10,000 to a monitoring program developed by DGIF for this purpose.
- Stormwater Detention System. DGIF has recommended that the Facility's stormwater detention system be designed to withstand a 100-year storm event. The Facility's engineer has confirmed the Facility's stormwater detention pond and landscaping plan are designed to withstand a 100-year storm event. CPV Warren has further committed to enhance the design of the drainage ditches at the Facility.

### **5. Mr. Wilcox's Testimony**

At the hearing, Mr. Wilcox, an environmental services biologist for the DGIF, testified in support of Mr. Abbott's testimony. In addition, he addressed comments he submitted to Anne Newsom by memorandum dated May 20, 2002, on behalf of DGIF, as part of DEQ's coordinated review.<sup>514</sup> Mr. Wilcox stated that DGIF's comments arose from the agency's mandate to protect threatened and endangered species, but he noted the comments are advisory only and will not be incorporated into a permit.<sup>515</sup>

Mr. Wilcox commented on two positive attributes of CPV Warren's proposed Facility: (i) CPV Warren's willingness to develop a state-of-the-art stormwater retention pond that helps minimize or reduce potential adverse impacts to the Madison Cave Isopod, and (ii) CPV Warren's use of dry-cooling technology to minimize the pressure on water resources in Warren County and the surrounding region.<sup>516</sup> Mr. Wilcox testified that his concerns relate to stormwater runoff and monitoring of the Facility's potential impact on the habitat of the Madison Cave Isopod. DGIF's concerns have been addressed through commitments subsequently made by CPV Warren.<sup>517</sup> Mr. Wilcox concurred in Mr. Orndorff's recommendations.<sup>518</sup> He noted that he asked CPV Warren to work on ways to divert runoff from the stormwater pond and indicated that there will be additional discussions and site visits.<sup>519</sup>

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<sup>514</sup> Exhibit No. 10; Wilcox, Tr. at 147.

<sup>515</sup> Wilcox, Tr. at 150-51.

<sup>516</sup> *Id.* at 147-49.

<sup>517</sup> *See* Exhibit No. 8.

<sup>518</sup> Wilcox, Tr. at 149.

<sup>519</sup> *Id.* at 150

## 6. Mr. Turner's Testimony

Mr. Turner, director of the office of air permit programs for DEQ, testified to clarify statements made by public witness Dan Holmes, who spoke in opposition to CPV Warren's proposed Facility.<sup>520</sup> Mr. Turner first disputed Mr. Holmes' claim that Dominion was required to convert its Possum Point coal-fired facility to a natural gas system because of a lawsuit originated by the State of New York.<sup>521</sup> Mr. Turner stated that two coal-fired boilers at Possum Point were converted as the result of a regulatory analysis required of all major sources in the Northern Virginia non-attainment area.<sup>522</sup> Next, Mr. Turner stated that, contrary to Mr. Holmes' suggestion, Virginia's PSD program is not required by federal law to undergo a comprehensive review because (i) Virginia has not incurred a model increment violation that would trigger such a review, and (ii) all the elements of Virginia's PSD program were approved four years ago, making a programmatic review premature.<sup>523</sup>

Mr. Turner addressed Mr. Holmes' statement that LAER technology represents the "strictest" emissions control standard, as compared to the BACT technology to be employed by CPV Warren.<sup>524</sup> Mr. Turner stated that it is difficult to characterize LAER as more stringent than BACT because the two technologies may be "very similar" depending on the facility.<sup>525</sup> Mr. Turner stated that the use of the SCR system by CPV Warren and other companies brings the current BACT standard to approximately 2.5 ppm for NO<sub>x</sub> emissions.<sup>526</sup> Mr. Turner compared the 2.5 ppm BACT standard to a LAER standard of 2.0 ppm that has been required of certain facilities in the U.S.<sup>527</sup> Mr. Turner testified that, at this time, the 2.0 ppm LAER standard seems to be the most stringent, but no one is certain whether this standard can be met on a long-term basis.<sup>528</sup> If the facilities are unable to demonstrate compliance with the 2.0 ppm LAER standard, then the standard would be equivalent to the previous LAER standard that was demonstrated to be achievable.<sup>529</sup> On this basis, Mr. Turner agreed with Mr. Holmes' statement that LAER would be more stringent than BACT for CPV Warren's Facility.<sup>530</sup> Mr. Turner also noted that the 2.5 ppm BACT standard proposed for CPV Warren's Facility is the lowest standard applied by DEQ.<sup>531</sup> He stated that DEQ has not yet completed a draft PSD permit for CPV Warren's Facility, although the draft permit is likely to be issued this year.<sup>532</sup>

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<sup>520</sup> Turner, Tr. at 152-53.

<sup>521</sup> *Id.* at 153.

<sup>522</sup> *Id.*

<sup>523</sup> *Id.* at 154.

<sup>524</sup> *Id.* at 155-56.

<sup>525</sup> *Id.* at 155.

<sup>526</sup> *Id.* at 156.

<sup>527</sup> *Id.*

<sup>528</sup> *Id.*

<sup>529</sup> *Id.*

<sup>530</sup> *Id.*

<sup>531</sup> *Id.* at 157.

<sup>532</sup> *Id.* at 157-58.

Mr. Turner next addressed Mr. Holmes' statement that Warren County is within EPA's presumptive boundaries for non-attainment with the eight-hour ozone standard.<sup>533</sup> Mr. Turner stated that DEQ has not included Warren County as part of a non-attainment area in any proposal submitted to EPA.<sup>534</sup> Further, EPA has not indicated to DEQ that it intends to designate Warren County as part of a non-attainment area in the future.<sup>535</sup>

Mr. Turner testified regarding Mr. Holmes' remark that DEQ has failed to conduct a PSD increment analysis.<sup>536</sup> Mr. Turner explained that a PSD increment is the maximum allowable increase in concentration above a baseline concentration for a pollutant, established to ensure that air quality does not deteriorate beyond the concentration allowed by the applicable NAAQS.<sup>537</sup> Mr. Turner stated that DEQ has not yet determined whether a PSD increment analysis will be required for CPV Warren's Facility.<sup>538</sup> Once DEQ has reviewed CPV Warren's modeling analysis and "fixed" the modeling protocol, then DEQ will determine whether an increment analysis is appropriate.<sup>539</sup>

Finally, Mr. Turner addressed the criteria considered by DEQ in regards to the cumulative air quality impacts analysis conducted by CPV Warren.<sup>540</sup> He stated that, because Virginia's regulations do not specify a procedure for conducting a cumulative impacts analysis, DEQ evaluates each analysis on the basis of three criteria: (i) whether the analysis has technical errors, (ii) whether the methodology employed is a justifiable or supportable way of approaching the analysis, and (iii) whether the analysis includes a multi-source analysis through the PSD process.<sup>541</sup> Applying the first criterion to CPV Warren's proposed Facility, Mr. Turner stated that DEQ found no technical errors in CPV Warren's analysis.<sup>542</sup> With respect to the second criterion, Mr. Turner stated that DEQ determined that CPV Warren's methodology was justifiable and supportable.<sup>543</sup> Finally, with respect to the third criterion, Mr. Turner stated that the modeling for the facility had not been submitted as of the date of the hearing, so DEQ did not know at what level the modeling will need to be performed.<sup>544</sup>

#### **D. CPV Warren's Rebuttal Testimony**

In prefiled rebuttal testimony, Mr. Eiden accepted Staff's recommendations that CPV Warren report to the Clerk of the Commission (i) the name and corporate affiliation of any company joining CPV Warren as an equity partner, and (ii) the name and corporate affiliation of

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<sup>533</sup> *Id.* at 158-59.

<sup>534</sup> *Id.* at 158.

<sup>535</sup> *Id.* at 158-59.

<sup>536</sup> *Id.* at 159-61.

<sup>537</sup> *Id.* at 159-60.

<sup>538</sup> *Id.* at 160-61.

<sup>539</sup> *Id.*

<sup>540</sup> *Id.* at 161-62.

<sup>541</sup> *Id.*

<sup>542</sup> *Id.* at 162.

<sup>543</sup> *Id.*

<sup>544</sup> *Id.*

any company that purchases all or part of the capacity or output of the Facility on a long-term basis of six months or more.<sup>545</sup> Mr. Eiden also accepted Staff's recommendation that any certificate granted in this proceeding include a two-year sunset provision.<sup>546</sup> In addition, CPV Warren has accepted in all material respects the recommendations identified in DEQ's coordinated environmental review (which also are enumerated in Mr. Abbott's testimony).<sup>547</sup> With respect to the Madison Cave Isopod, CPV Warren and the interested agencies, DCR-DNH and DGIF, have reached agreement on certain additional measures, which are described in Exhibit 8.

## DISCUSSION

Virginia Code § 56-580 D provides as follows:

The Commission shall permit the construction and operation of electrical generating facilities upon a finding that such generating facility and associated facilities (i) will have no material adverse effect upon reliability of electric service provided by any regulated public utility and (ii) are not otherwise contrary to the public interest. In review of a petition for a certificate to construct and operate a generating facility described in this subsection, the Commission shall give consideration to the effect of the facility and associated facilities on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact as provided in § 56-46.1. In order to avoid duplication of governmental activities, any valid permit or approval required for an electric generating plant and associated facilities issued or granted by a federal, state or local governmental entity charged by law with responsibility for issuing permits or approvals regulating environmental impact and mitigation of adverse environmental impact or for other specific public interest issues such as building codes, transportation plans, and public safety, whether such permit or approval is prior to or after the Commission's decision, shall be deemed to satisfy the requirements of this section with respect to all matters that (i) are governed by the permit or approval or (ii) are within the authority of, and were considered by, the governmental entity in issuing such permit or approval, and the Commission shall impose no additional conditions with respect to such matters. . . .

In addition, § 56-46.1 A requires that the Commission:

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<sup>545</sup> Exhibit No. 4, at 2.

<sup>546</sup> *Id.*

<sup>547</sup> *Id.* at 3-4.

shall give consideration to the effect of that facility on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact. In order to avoid duplication of governmental activities, any valid permit or approval required for an electric generating plant and associated facilities issued or granted by a federal, state or local governmental entity charged by law with responsibility for issuing permits or approvals regulating environmental impact and mitigation of adverse environmental impact or for other specific public interest issues such as building codes, transportation plans, and public safety, whether such permit or approval is granted prior to or after the Commission's decision, shall be deemed to satisfy the requirements of this section with respect to all matters that (i) are governed by the permit or approval or (ii) are within the authority of, and were considered by, the governmental entity in issuing such permit or approval, and the Commission shall impose no additional conditions with respect to such matters. . . . In every proceeding under this subsection, the Commission shall receive and give consideration to all reports that relate to the proposed facility by state agencies concerned with environmental protection; and if requested by any county or municipality in which the facility is proposed to be built, to local comprehensive plans that have been adopted pursuant to Article 3 (§ 15.2-2223 *et seq.*) of Chapter 22 of Title 15.2. Additionally, the Commission (i) shall consider the effect of the proposed facility on economic development within the Commonwealth and (ii) shall consider any improvements in service reliability that may result from the construction of such facility.

Finally, § 56-596 A requires that: “[i]n all relevant proceedings pursuant to this Act, the Commission shall take into consideration, among other things, the goals of advancement of competition and economic development in the Commonwealth.”

In its Final Order in *CPV Cunningham Creek LLC*,<sup>548</sup> the Commission found that the Code of Virginia establishes six general criteria, or areas of analysis, that apply to an electric generating plant application, including: (i) reliability, (ii) competition, (iii) rates, (iv) environment, (v) economic development, and (vi) public interest.<sup>549</sup> Each of these criteria is analyzed below.

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<sup>548</sup> *Application of CPV Cunningham Creek LLC, For approval of electrical generating facilities pursuant to Va. Code § 56-580 D, for waiver of certain filing requirements, for confidential treatment of certain information, and for a certificate of public convenience and necessity pursuant to § 56-265.2, for an exemption from Chapter 10 of Title 56, and for interim authority to make financial expenditures*, Case No. PUE-2001-00477, Final Order (October 7, 2002) (“*CPV Cunningham Creek*”).

<sup>549</sup> *Id.* at 6-7.

## **A. Reliability**

Among other things, § 56-580 D requires that a proposed generating facility “have no material adverse effect upon reliability of electric service provided by any regulated public utility.” Likewise, § 56-46.1 A directs the Commission to consider “any improvements in service reliability that may result from the construction of such facility.”

The proposed Facility will interconnect on-site with a 500 kV transmission line owned by Dominion and a 138 kV transmission line owned by Allegheny.<sup>550</sup> CPV Warren witness Eiden testified that both Dominion and Allegheny have completed system impact studies, which concluded that with the appropriate upgrades, the Facility would not adversely affect the reliability of either system.<sup>551</sup> On July 17, 2002, CPV Warren reported that it received a facilities study from Dominion which concluded that the Facility will require no network upgrades on the Dominion’s system.<sup>552</sup> Mr. Eiden confirmed that upgrades will be required on the Allegheny system and that CPV Warren has agreed to pay for the required upgrades.<sup>553</sup> Staff witness Abbott agreed that the proposed interconnection will not adversely impact the reliability of Dominion and Allegheny’s systems.<sup>554</sup>

Based on the record, I find that CPV Warren has demonstrated that its proposed Facility will have no material adverse effect upon the reliability of electric service provided by any regulated public utility. No evidence was presented concerning whether the Facility will enhance the reliability of service by either Dominion or Allegheny. But, such a showing is not required or critical for certification.

## **B. Competition**

Section 56-596 A requires that in all relevant proceedings pursuant to the Virginia Electric Utility Restructuring Act, which includes § 56-580, “the Commission shall take into consideration, among other things, the goals of advancement of competition . . . .”

Staff witness Carsley testified that this Facility will operate as a merchant plant and will add 520 MW of capacity. Up to 100% of this capacity may be available to Dominion’s service territory and up to 50% of the capacity may be available to Allegheny’s service territory.<sup>555</sup> Based on a finding that a positive correlation exists between market power and the ownership of generating capacity, Mr. Carsley explained that competition is benefited by the construction and operation of generation that is owned or controlled by a company other than an incumbent electric

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<sup>550</sup> Exhibit No. 3, at 4.

<sup>551</sup> Eiden, Tr. at 101; Exhibit No. 6, at 1.

<sup>552</sup> *Id.*

<sup>553</sup> Eiden, Tr. at 102.

<sup>554</sup> Exhibit No. 9, at 3-4.

<sup>555</sup> Exhibit No. 17, at 6.

utility.<sup>556</sup> Mr. Carsley took the position that the addition of such capacity has a desirable effect on competition.<sup>557</sup>

However, Mr. Carsley noted that one of CPV Warren's financing options is to take on a large, publicly-traded power generation company as an equity partner and that CPV Warren is assessing long-term arrangements for the sale of all or a portion of the electric output of its Facility.<sup>558</sup> In addition, Mr. Carsley expressed concern that certain aspects of the electric power industry make it possible for some firms to have market power even if they do not control a large amount of capacity in a region.<sup>559</sup> For these reasons, Mr. Carsley recommended the Commission require CPV Warren to report to the Commission the name and corporate affiliation of any company that acquires an equity position in the Facility or that purchases all or part of the capacity or output of the Facility, before or after its completion, on a long-term basis of six months or more.<sup>560</sup> CPV Warren agreed to report such information to the Commission.

Based on the record, I find that the Facility advances the goals of electric competition in the Commonwealth.

### **C. Rates**

Section 56-580 D directs the Commission to permit the construction and operation of electrical generating facilities upon a finding that such generating facility and associated facilities "are not otherwise contrary to the public interest." The Commission has interpreted this requirement to include consideration of the impact of a proposed facility on the rates paid by "customers of any regulated public utility service in the Commonwealth, including water service, gas distribution service, electric distribution service, and electric transmission service."<sup>561</sup> Consequently, ¶ 14 of 20 VAC 5-302-20 instructs applicants seeking Commission approval of electric generating facilities to include "an analysis of any reasonably known impacts the proposed facility may have upon . . . rates paid by, customers of any regulated public utility for service in the Commonwealth, including water service, gas distribution service, electric distribution service, and electric transmission service."

There is nothing in the record to suggest that this Facility will have an adverse effect on the rates of any Virginia regulated utility. As discussed above, CPV Warren will bear the cost of any system improvements required for interconnection with either Dominion or Allegheny.<sup>562</sup> The Facility will be fueled by natural gas purchased on the spot market and delivered by

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<sup>556</sup> *Id.*

<sup>557</sup> *Id.*

<sup>558</sup> *Id.* at 6-7.

<sup>559</sup> *Id.* at 7.

<sup>560</sup> *Id.* at 8.

<sup>561</sup> *Ex Parte: In the matter of amending filing requirements for applications to construct and operate electric generating facilities*, Case Nos. PUE-2001-00313 and PUE-2001-00665, Order Adopting Rules and Prescribing Additional Notice at 6 (December 14, 2001).

<sup>562</sup> Eiden, Tr. at 101-02; Exhibit No. 6.

Columbia Transmission's interstate pipeline.<sup>563</sup> Thus, I find there will be no adverse impact on the rates of any Virginia regulated electric or natural gas public utility.

CPV Warren witness Eiden testified that Warren County and Front Royal have agreed that Front Royal will provide both water and wastewater services to the Facility and that Front Royal has assured CPV Warren it has sufficient capacity to meet the water needs of the Facility.<sup>564</sup> Mr. Eiden confirmed that Front Royal's Town Council has held a public hearing and unanimously approved the water and sewage service for the Facility.<sup>565</sup> The Facility will employ air-cooled condensers to greatly reduce the amount of water required.<sup>566</sup> In addition, on-site water storage will provide sufficient supply for thirty-three days of plant operation using natural gas (ten days when using distillate oil).<sup>567</sup>

Staff witness Abbott reviewed the impact of the proposed Facility on rates and concluded that the project generally meets the criteria set forth in § 56-580 D.<sup>568</sup> Mr. Abbott did not recommend the adoption of any conditions related to the Facility's water or wastewater requirements. Therefore, I find that based on the record, the proposed Facility will have no adverse impact on the rates of any Virginia utility.

#### **D. Environment**

Sections 56-580 D and 56-46.1 A direct the Commission to give consideration to the effect of the proposed Facility "on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact." However, the 2002 General Assembly passed legislation ("SB 554") to amend §§ 56-580 D and 56-46.1 to avoid duplication of efforts by governmental agencies by adding the following language:

In order to avoid duplication of governmental activities, any valid permit or approval required for an electric generating plant and associated facilities issued or granted by a federal, state or local governmental entity charged by law with responsibility for issuing permits or approvals regulating environmental impact and mitigation of adverse environmental impact or for other specific public interest issues such as building codes, transportation plans, and public safety, whether such permit or approval is prior to or after the Commission's decision, shall be deemed to satisfy the requirements of this section with respect to all matters that (i) are governed by the permit or approval or (ii) are within the authority of, and were considered by, the governmental entity in issuing such

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<sup>563</sup> Exhibit No. 3, at 5-6.

<sup>564</sup> Exhibit No. 5, at 15.

<sup>565</sup> Eiden, Tr. at 121.

<sup>566</sup> Exhibit No. 5, at 13.

<sup>567</sup> *Id.* at 14.

<sup>568</sup> Exhibit No. 9, at 12.

permit or approval, and the Commission shall impose no additional conditions with respect to such matters.

In *CPV Cunningham Creek LLC*, the Commission granted a certificate of public convenience and necessity to construct and operate a proposed 520 MW facility based on the filing of a permit issued by the DEQ in accordance with the provisions of the Commonwealth of Virginia State Air Pollution Control Board's Regulations for the Control and Abatement of Air Pollution.<sup>569</sup> In this case, at the hearing, counsel for CPV Warren explained that CPV Warren has applied with the DEQ for a PSD, "which will assure that this facility meets or beats all applicable air quality requirements for new power plants."<sup>570</sup> Charles Turner, director of the Office of Air Permit Programs for the DEQ provided the following concerning the status of CPV Warren's PSD application:

This particular facility has submitted an application to us. However, we have not completed a draft permit. And right now, relative to the modeling requirements for this facility, the Class I analysis modeling protocol has only recently been agreed upon. So we have not seen that. We have not received their modeling analysis for the Class II areas either. At this time we cannot state what the specific standard would be. We can make speculation, but the permit won't be finalized until we receive – see the results of that modeling and know that the emissions levels do not allow for a violation of the NAAQS standard.<sup>571</sup>

Nonetheless, in response to Commission concern, CPV Warren provided very thorough analyses of the cumulative impact of the proposed project combined with all other existing and proposed electric generation facilities on the air quality in and around Warren County. In addition, CPV Warren produced an analysis to estimate the future impact on air quality resulting from the operation of the new generation facilities. Witnesses discussed the results of the analyses and concerns expressed by others in great detail. The record herein demonstrates that this project even in combination with other existing and proposed generation facilities will have no significant impact on air quality in and around Warren County.

In a recent decision, the Commission considered a letter filed by the DEQ pursuant to § 10.1-1186.2:1 C concerning information about environmental issues identified during its review process.<sup>572</sup> Among other things, the DEQ letter explained that all issues identified during the DEQ review process were addressed in the DEQ report and explained whether any of its recommendations were within the authority of a permitting agency.<sup>573</sup> The Commission found

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<sup>569</sup> *CPV Cunningham Creek* at 7-8.

<sup>570</sup> Barrett, Tr. at 20.

<sup>571</sup> Turner, Tr. at 157.

<sup>572</sup> *Application of Old Dominion Electric Cooperative For approval of a certificate of public convenience and necessity for electric generating facilities*, Case No. PUE-2002-00003, Final Order at 8 (November 6, 2002) ("ODEC").

<sup>573</sup> *Id.*

that the DEQ report satisfied the Commission's environmental inquiry.<sup>574</sup> Thus, the Commission conditioned its grant of a certificate on compliance with the recommendations made by the DEQ in its report, except for two recommendations that were within the authority of, and being considered by, the permitting agency.<sup>575</sup>

In this case, in regard to the recommendations made by the DEQ, CPV Warren witness Eiden confirmed the following:

CPV Warren accepts the recommendations [of the DEQ] as a condition of approval of CPV Warren's application, along the lines described below:

- CPV Warren agrees to obtain all applicable environmental permits and approvals prior to commencement of construction activities and to comply with the conditions of the permits and approvals listed in the "Regulatory and Coordination Needs" section of DEQ's Comments and Recommendations, pages 12-13 of Appendix C of Staff's Pre-Filed Testimony[;]
- CPV Warren agrees to consult with the Department of Historic Resources to complete the review with regard to historic structures;
- CPV Warren agrees to protect stormwater runoff from contact with hazardous materials on the facility site to avoid adverse impacts to groundwater associated with sinkholes on the site[;]
- CPV Warren agrees to upgrade the stormwater management facility to reduce the likelihood of discharge of hydrocarbons into groundwater;
- CPV Warren agrees to stabilize and fence the area along the east side of the [Allegheny] access road to protect the recharge area of the nearby caves;
- CPV Warren agrees to incorporate contingencies for spill contamination into the site design;
- CPV Warren agrees to coordinate with [Front Royal] to ensure that the Facility meets any applicable Front Royal pre-treatment requirement for wastewater discharge;
- CPV Warren agrees to follow the principles and practices of pollution prevention to the maximum extent practicable;
- CPV Warren agrees to reduce solid waste at the source, re-use it, and recycle it to the extent practicable;
- CPV Warren agrees to limit the use of pesticides and herbicides; and
- CPV Warren commits to protect any mature, individual trees that remain on the project site through the practices and

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<sup>574</sup> *Id.* at 11.

<sup>575</sup> *Id.* at 11-12.

precautions stated in “Environmental Impacts and Mitigation,”  
page 11 of Appendix C of Staff’s Pre-Filed Testimony.<sup>576</sup>

The only difference between the recommendations made by the DEQ and the commitments made by CPV Warren concerned the DEQ’s recommendation that CPV Warren acquire land through purchase, conservation easements or other method to protect the recharge area of the nearby caves.<sup>577</sup> This recommendation originated with the DCR-DNH and was designed to protect the habitat for the Madison Cave Isopod that was discovered on the neighboring Fishnet Site. However, in a letter dated October 11, 2002, CPV Warren provided that it resolved issues related to the Madison Cave Isopod by committing to: (i) contribute \$47,250 toward a fund that will be administered by DCR to acquire the conservation easement or purchase the property over Madison Cave Isopod habitat located on the Fishnet Site, (ii) contribute \$10,000 to a monitoring program developed by DGIF for this purpose to monitor potential impacts to the Madison Cave Isopod resulting from the construction and operation of the Facility, and (iii) confirm that the Facility’s stormwater detention system has been designed to withstand a 100-year storm event.<sup>578</sup>

Based on the record, CPV Warren’s agreement to implement the DEQ’s recommendations as a condition for its certificate from this Commission, CPV Warren’s commitments to Warren County, and CPV’s agreement with DGIF and DCR regarding the Madison Cave Isopod, I find that the Facility will have no material adverse effect on any threatened or endangered plant or animal species, any wetlands, air quality, water resources, or the environment generally. Further, I believe, that the above recommendations of the DEQ and agreements with DGIF and DCR are not within the authority or consideration by a separate permitting agency. However, it is my understanding that as it did in *ODEC*, Staff has requested clarification from the DEQ as to whether all issues identified during the DEQ’s review process are addressed in the DEQ report and whether any of its recommendations were within the authority of a permitting agency. Staff is requested to file the DEQ’s response as comments to this report.

## **E. Economic Development**

Section 56-46.1 A directs the Commission to consider the effects of the proposed facility on economic development within the Commonwealth. In addition, § 56-596 A requires the Commission to take into consideration, among other things, economic development in the Commonwealth.

Richard Traezyk, the chairman of the Warren County Planning Commission at the time CPV Warren presented its petition for local approval, testified that the Facility will benefit Warren County by contributing millions of dollars to the County’s tax base, diversifying the County’s businesses, and bringing high dollar, high skill jobs to the community.<sup>579</sup> Company

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<sup>576</sup> Exhibit No. 4, at 3-4.

<sup>577</sup> See Exhibit No. 10.

<sup>578</sup> Exhibit No. 8.

<sup>579</sup> Traezyk, Tr. at 30.

witness Eiden quantified the benefits of the Facility to Warren County as: (i) \$1.9 million in local property tax and other revenue, (ii) approximately 300 temporary construction jobs, with an average annual salary of \$50,000, and (iii) approximately thirty full-time jobs with an average annual salary of more than \$55,000.<sup>580</sup> In addition, Mr. Eiden stated that CPV Warren intends to purchase as many goods and services from local sources as possible.<sup>581</sup> In summary, Mr. Eiden contended that while the Facility will contribute significantly to the local economy, it will not cause substantial population growth and therefore will have very little impact on County services and infrastructure.<sup>582</sup>

Staff witness Carsley confirmed the Facility would have positive net economic benefits for Warren County; CPV Warren has committed to pay \$1.9 million in annual property taxes and other payments.<sup>583</sup> In addition, Mr. Carsley noted that CPV Warren has committed to pay \$100,000 towards the cost of constructing and equipping a new volunteer fire station, and pay \$125,000 towards improvements to State Routes 658 and 627 and the construction of a water line to connect segments of the County's water system.<sup>584</sup> Mr. Carsley found CPV Warren's voluntary proffer to obtain NO<sub>x</sub> offsets as a further economic benefit to Warren County.<sup>585</sup> Finally, Mr. Carsley agreed with CPV Warren that the economic benefits to the County will be achieved at little cost and that CPV Warren has received no present or future financial concessions from either Warren County or the Commonwealth that would reduce net economic benefits.<sup>586</sup>

Based on this record, I find that the Facility will have a positive impact on the economy of Warren County.

## **F. Public Interest**

Section 56-580 D directs the Commission to "permit the construction and operation of electrical generating facilities upon a finding that such generating facility and associated facilities . . . (ii) are not otherwise contrary to the public interest."

In this case, the only issue raised that primarily touched upon the public interest concerned the ultimate control and ownership of the Facility. Dan Holmes, of the Piedmont Environmental Council, questioned whether CPV Warren intended to operate the Facility and whether the commitments made by CPV Warren to Warren County would be enforceable if CPV Warren sold the Facility.<sup>587</sup> CPV Warren witnesses Eiden and Sellars both confirmed that the commitments made by CPV Warren to Warren County would be enforceable.<sup>588</sup> Moreover, Mr.

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<sup>580</sup> Exhibit No. 3, at 7.

<sup>581</sup> *Id.*

<sup>582</sup> *Id.*

<sup>583</sup> Exhibit No. 17, at 2.

<sup>584</sup> *Id.* at 3.

<sup>585</sup> *Id.* at 4.

<sup>586</sup> *Id.* at 5.

<sup>587</sup> Holmes, Tr. at 47.

<sup>588</sup> Eiden, Tr. at 119; Sellars, Tr. at 165.

Eiden maintained that CPV Warren will be the entity that constructs and operates the Facility.<sup>589</sup> However, Mr. Eiden explained that CPV Inc. has various options for obtaining additional financing for the Facility, including taking on an equity investor with experience in the business of owning and running power plants.<sup>590</sup>

Staff witness Owens reviewed CPV Inc.'s financing options and expressed concern that the Commission may issue a Certificate to a company based on one set of facts, and then have the company transformed into a completely different entity through changes in ownership.<sup>591</sup> To address this concern, Staff recommended that any Certificate approved by the Commission in this proceeding include a "sunset provision," allowing the Company two years from the date of the Commission order granting the Certificate, to begin construction. In addition, Staff recommended that the Commission require CPV Warren to report to the Clerk of the Commission the name and corporate affiliation of any company that acquires an equity position in the Facility.<sup>592</sup> On rebuttal, CPV Warren agreed to Staff's recommendations.<sup>593</sup>

Virtually the same control and ownership issue was raised in *CPV Cunningham Creek*.<sup>594</sup> In that case, the Commission granted CPV Cunningham Creek a Certificate with the condition that it report any changes in its business plan, including any changes in equity ownership, to the Commission's Division of Economics and Finance.<sup>595</sup> In this case I find that CPV Warren's commitment to report any changes in equity ownership and the name of any company that purchases all or part of the capacity or output of the Facility on a long-term basis of six months or more provides the Commission with sufficient information and opportunity to protect the public interest. In other words, if in the future there is a change in ownership the Commission will be able to conduct an investigation to determine whether there has been a significant change in the character of the certificate holder. Based on such an investigation, the Commission can evaluate whether further action is warranted.

Therefore, based on the record in this case, I find that the construction and operation of the Facility will not be contrary to the public interest.

## FINDINGS AND RECOMMENDATIONS

1. The Facility will have no material adverse effect upon the reliability of electric service provided by any regulated public utility;
2. The Facility advances the goal of electric competition in the Commonwealth;

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<sup>589</sup> Eiden, Tr. at 110-11.

<sup>590</sup> *Id.* at 111-13; *See* Exhibit No. 4.

<sup>591</sup> Exhibit No. 15, at 6.

<sup>592</sup> *Id.* at 6-7; Exhibit No. 17, at 7-8.

<sup>593</sup> Exhibit No. 4, at 2.

<sup>594</sup> *CPV Cunningham Creek*, Report of Deborah V. Ellenberg, Chief Hearing Examiner, at 48-49 (August 7, 2002).

<sup>595</sup> *CPV Cunningham Creek*, Final Order at 8.

3. The Facility will have no adverse effect upon the rates paid by customers for electric, natural gas, water, or sewer service from any regulated public utility in the Commonwealth;
4. The Facility will have no material adverse effect on any threatened or endangered plant or animal species, any wetlands, air quality, water resources, or the environment generally;
5. The Facility will have a positive impact on economic development;
6. Construction and operation of the Facility will not be contrary to the public interest;
7. Any Certificate issued by the Commission in this case should include a requirement that CPV Warren report to the Clerk of the Commission the name and corporate affiliation of any company joining CPV as an equity partner, and the name and corporate affiliation of any company that purchases all or part of the capacity or output of the Facility on a long-term basis of six months or more;
8. Any Certificate issued by the Commission in this case should include a sunset provision that calls for the Certificate to expire if construction has not commenced within two years from the date of issuance;
9. Any Certificate issued by the Commission in this case should require CPV Warren to comply with all recommendations of the DEQ as agreed to by CPV Warren during this proceeding; and
10. Any Certificate issued by the Commission in this case should include a requirement for CPV Warren to meet its commitments with regard to the Madison Cave Isopod as set forth in Exhibit No. 8.

In conclusion, based on the evidence received in this case, and for the reasons set forth above, ***I RECOMMEND*** the Commission:

1. ***GRANT*** the Applicant authority and a certificate of public convenience and necessity pursuant to § 56-580 D of the Code of Virginia to construct and operate an electric generation facility, and its associated facilities in Warren County as described above and based upon the record developed herein;
2. ***DIRECT*** CPV Warren to report to the Clerk of the Commission the name and corporate affiliation of any company joining CPV as an equity partner, and the name and corporate affiliation of any company that purchases all or part of the capacity or output of the Facility on a long-term basis of six months or more;
3. ***PROVIDE*** that the Certificate will sunset if construction has not begun within two years from the date of a Commission final order granting approval of the Facility;
4. ***DIRECT*** CPV Warren to comply with recommendations of the DEQ as agreed to by CPV Warren during this proceeding;

5. ***DIRECT*** CPV Warren to meet its commitments with regard to the Madison Cave Isopod as set forth in Exhibit No. 8;

6. ***PROVIDE*** that the Certificate is conditioned on the receipt of all permits necessary to operate the Facility, and direct CPV Warren to provide a complete list to the Division of Energy Regulation; and

7. ***DISMISS*** this case from the docket of active matters.

## COMMENTS

The parties are advised that pursuant to Rule 5 VAC 5-20-120 C of the Commission's Rules of Practice and Procedure, any comments to this Report must be filed with the Clerk of the Commission in writing, in an original and fifteen copies, within twenty-one days from the date hereof. The mailing address to which any such filing must be sent is Document Control Center, P.O. Box 2118, Richmond, Virginia 23218. Any party filing such comments shall attach a certificate to the foot of such document certifying that copies have been mailed or delivered to all counsel of record and any such party not represented by counsel.

Respectfully submitted,

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Alexander F. Skirpan, Jr.  
Hearing Examiner